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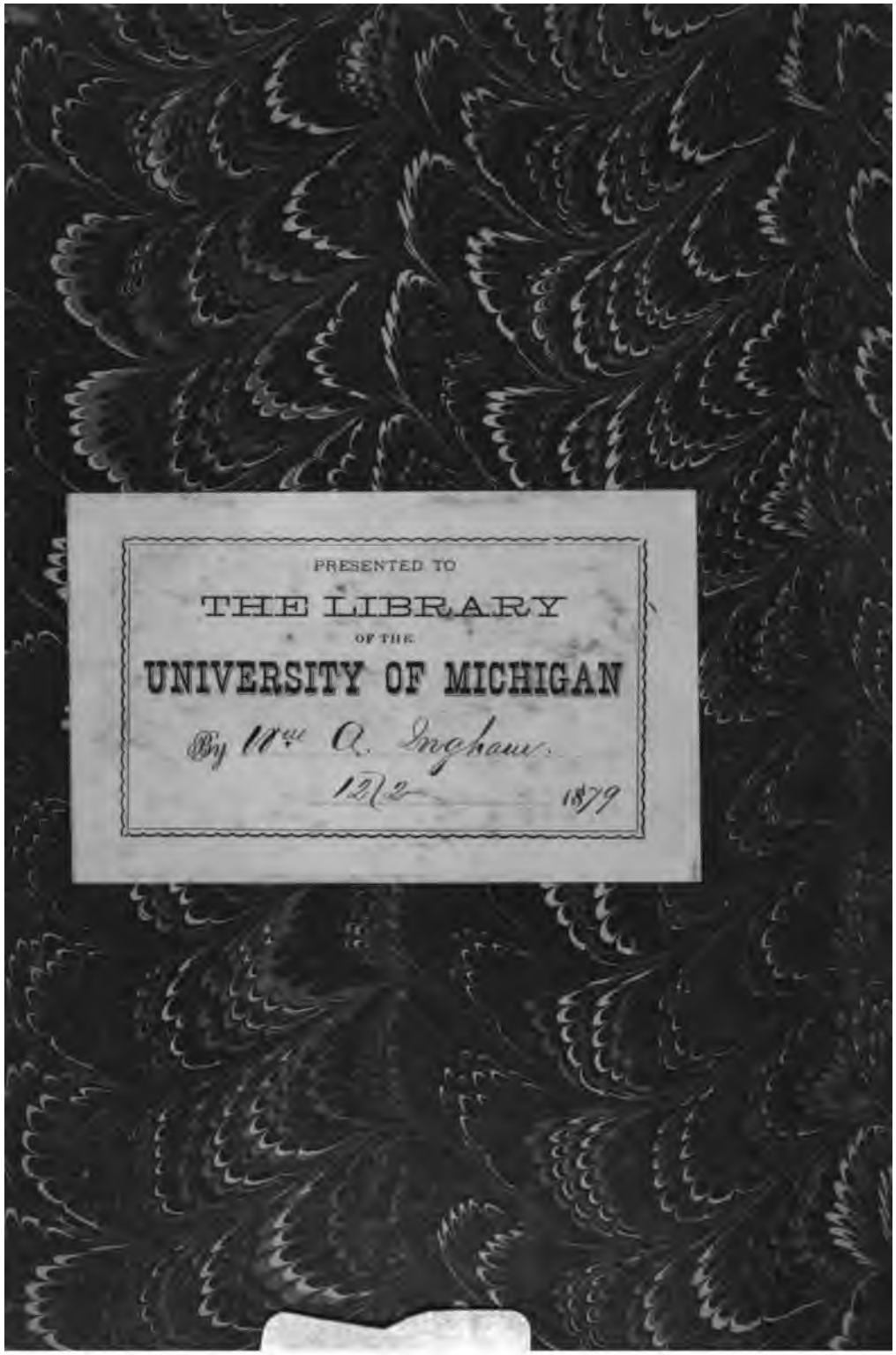
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SECOND GEOLOGICAL SURVEY OF PENNSYLVANIA:

REPORT OF PROGRESS

P.

ATLAS

TO THE

COAL FLORA

OF

PENNSYLVANIA,

AND OF THE

CARBONIFEROUS FORMATION

THROUGHOUT

THE UNITED STATES.

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HARRISBURG:
PUBLISHED BY THE BOARD OF COMMISSIONERS
FOR THE SECOND GEOLOGICAL SURVEY.
1879.

Entered, for the Commonwealth of Pennsylvania, in the year 1879, according to acts of Congress,

By WILLIAM A. INGHAM,

Secretary of the Board of Commissioners of Geological Survey,

In the office of the Librarian of Congress, at

WASHINGTON, D. C.

Stereotyped and printed by
LANE S. HART, State Printer,
Harrisburg, Pa.

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ATLAS TO COAL FLORA.

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" 2. *S. . . . . squamosa*, Sp. nov.
" 3. *S. . . . . punctata*, Lx.
Geol. of Penna., 1858, Pl. xiii, f. 1.
" 4. *S. . . . . mimica*, Sp. nov.
" 5. *S. . . . . angustata*, Sp. nov.
" 6. *S. . . . . polita*, Sp. nov.
" 7. *S. . . . . insignis*, Lx.
Geol. Rept. of Ills., ii, Pl. xlix, f. 1.
" 8. *Caulopteris obtecta*, Lx.
Ibid., iv, Pl. xxviii, f. 1.

Pl. LX.

Figs. 1, 2. *Caulopteris Giffordi*, Sp. nov.
" 3. *C. . . . Mansfieldi*, Sp. nov.

Pl. LXI.

Figs. 1, 2. *Halonia tortuosa*, Ll. & H.
" 3, 3*a*. *H. . flexuosa*, Sp. nov.
" 4. *Megaphitum Goldenbergii*, Weiss.
" 5. *Halonia pulchella*, Lx.
Geol. Rept. of Aks., ii, Pl. iii, f. 8 in parte.

Pl. LXII.

Figs. 1, 1*a*. *Lycopodites Meekii*, Lx.
Geol. Rept. of Ills., iv, Pl. xxvi, f. 6, 6a.
" 2, 2*a*. *L. . . . . pendulus*, Sp. nov.
" 3–3*d*. *Lepidodendron squamiferum*, Sp. nov
" 4, 4*a*. *L. . . . . rhombicum*, St.
" 5. *L. . . . . cyclostigma*, Sp. nov.
" 6–8*a*. *L. . . . . Weltheimianum*, St.

Pl. LXIII.

Figs. 1–2. *Lepidodendron Brittsii*, Sp. nov.
" 3–5*a*. *Lepidodendron lanceolatum*, Sp. nov.
" 6–6*c*. *L. . . . . scutatum*, Sp. nov.
" 7–8. *L. . . . . latifolium*, Sp. nov.
" 9–10*a*. *L. . . . . forulatum*, Lx.
Geol. Rept. of Ills., iv, Pl. xxiii, f. 5–8.

PL. LXIV.

Figs. 1. *Lepidodendron, aculeatum*, St.
" 2. *L. . . . . diplotegioides*, Lx.
Geol. Rept. of Ills., ii, Pl. xlix, f. 2.
" 3. *L. . . . . obovatum*, St.
" 4. *L. . . . . costatum*, Lx.
Ibid., Pl. xliv, f. 7.
" 5. *L. . . . . turbinatum*, Lx.
Ibid., Pl. xliv, f. 6.
" 6. *L. . . . . Andrewsi*, Sp. nov.
" 7. *L. . . . . cuspidatum*, Sp. nov.
" 8, 9. *L. . . . . Wortheni*, Lx.
Ibid., Pl. xlix, f. 4, 5.
" 10. *L. . . . . distans*, Lx.
Geol. of Penna., 1858, Pl. xvi, f. 4.
" 11. *L. . . . . rimosum*, St.
" 12. *L. . . . . Mielickii*, Goepp.
" 13,14. *L. . . . . modulatum*, Lx.
Geol. Rept. of Arks., ii, Pl. iii, f. 1, 1a.
" 15. *L. . . . . restitum*, Lx.
"16–18. *L. . . . . clypeatum*, Lx.

PL. LXV.

Figs. 1. *Ulodendron elongatum*, Lx.
Geol. Rept. of Ills., iv, Pl. xxiii, f. 4.
" 2–4. *U. . . . elipticum*, St.
Ibid., Pl. xxii, f. 3, xxiii, f. 1–3.
" 5, 5a. *U. . . . punctatum*, St.

PL. LXVI.

Figs. 1. *Uodendron minus*, Ll. & H.
" 2, 2a. *U. . . . commutatum*, Schp.
" 3–3a. *U. . . . majus*, Ll. & H.
Geol. Rept. of Ills., iv, Pl. xxii, f. 4a, b. c.

PL. LXVII.

Figs. 1, 1a. *Halonia secreta*, Sp. nov.
" 2, 2a. *Ulodendron Mansfieldi*, Sp. nov.
" 3. *Dechenia striata*, Sp. nov.

Pl. LXVIII.

Figs. 1. Fragment of cone of *Lepidophloios laurici-nus*, St.
Roehl. Paleont., xviii, Pl. xiii, f. 1*a*.

" 2. *Lepidophloios macrolepidotus*, Gold.

" 3. Cone of *Lepidophloios auriculatus*, Lx.
Geol. Rept. of Ills., iv, Pl. xxx, f. 1.

" 4. Scale of the same.

" 5. *Lepidophyllum auriculatum*, Lx.
Ibid., Pl. xxiv, f. 1 in parte.

" 6. *Lepidophloios;* fragment of a cone with scales partly covering macrospores.

" 7–7*b*. Same; agglomerations of macrospores.

" 8, 8*a*. *L. . . ? Sigillarioides*, Sp. nov.

" 9, 9*a*. *L. . . protuberans*, Lx.
Ibid., Pl. xxvi, f. 1, 2.

" 10. *L. . ichthyoderma*, Sp. nov.

Pl. LXIX.

Figs .1–2. *Lepidostrobus macrocystis*, Sp. nov.

" 3. *Lipidocystis pectinatus*, Sp. nov.

" 4. *L. . . . lineatus*, Sp. nov.

" 5. *L. . . . quadrangularis*, Sp. nov.

" 6–7. *L. . . . obtusus*, Sp. nov.

" 8. *Lepidophyllum foliaceum*, Lx.

" 9–10. *L. . . . truncatum*, Sp. nov.

"11–14. Agglomeration of macrospores (*Sporocystis.*)

"15,15*a*. *Sporicystis planus*, Sp. nov.

"16–17*a*. *Lepidocystis angularis*, Sp. nov.

"18–20. *L. . . . vesicularis*, Sp. nov.

"21–23. *L. . . . fraxiniformis*, Sp. nov.

"24,24*a*. *L. . . . bullatus*, Lx.

"25,25*a*. *Lepidostrobus incertus*, Sp. nov.

" 26. *L. . . . variabilis*, Ll. & H.

"27,28. *L. . . . hastatus*, Lx.

" 29. *L. . . . oblongifolius*, Lx.
Geol. Rept. of Ills., iv, Pl. xxx, f. 3.

"30,30*a*. *Lepidostrobus lancifolius*, Lx.
Ibid., Pl. xxxi, f. 7, 7. *b*.

Figs. 31. *Lepidophyllum spatulatum*, Sp. nov.
" 32. *L. . . . . ovatifolium*, Lx.
Ibid., Pl. xxx, f. 2*b*.
" 33. *L. . . . . brevifolium*, Lx.
Geol. of Penna., 1858, Pl. xvii, f. 6.
" 34. *Lepidophyllum Mansfieldi*, Sp. nov.
" 35. *L. . . . . rostellatum*, Lx.
Geol. Rept. of Ills., iv, Pl. xxxi, f. 8.
" 36. *L. . . . . striatum*, Lx.
" 37. *L. . . . . acuminatum*, Lx.
" 38. *L. . . . . lanceolatum*, Bt.
" 39. *L. . . . . linearifolium*, Sp. nov.
" 40, 41. *L. . . . . Morisianum*, Sp. nov.

Pl. LXX.

Figs. 1–1*b*. *Syrigodendron Porteri*, Lx.
Geol. Rept. of Ills., iv, Pl. xxvii. f. 4–6.
" 2, 2*a*. *S. . . . . pachyderma*, Bt.
" 3–3*b*. *S. . . . . pes-caprœoli*, Gein.
" 4, 4*a*. *S. . . . . cyclostigma*, Bt.
" 5–9. *Sigillaria reniformis*, Bt.

Pl. LXXI.

Figs. 1–3. *Sigillaria lævigata*, Bt.
" 4. *S. . . . Pittstoniana*, Sp. nov.
" 5. *S. . . . marginata*, Bt.
" 6. *S. . . . Sillimanni*, Bt.
" 7, 8. *S. . . . ovalis*, Sp. nov.

Pl. LXXII.

Figs. 1. *Sigillaria hexagona*, Bt.
" 2–4*b*. *S. . . tessellata*, Bt.
" 5, 6. *S. . . mamillaris*, Bt.
" 7, 8. *S. . . attennata*, Lx.
Potts. Cat., Pl. ii, f. 1, 2.
" 9. *S. . . Lescurii*, Schp.
Ibid., Pl. ii, f. 3.
" 10. *S. . . Leptoderma*, Sp. nov.
" 11. *S . . Wolzii*, Bt.
" 12–12*b*. *S. . . Lacoei*, Sp. nov.

Pl. LXXIII.

Figs. 1. *Sigillaria polita*, Lx.
Geol. of Penna., 1858, Pl. xiv, f. 3.

" 2. *S. . . Yardleyi*, Lx.
Potts. Cat., Pl. ii, f. 4.

" 3–6. *S. . . monostigma*, Lx.
F. 6, Geol. Rept. of Ills., iv, Pl. xxvi, f. 5.

" 7. *S. . . Menardi*, Bt.

" 8–16*a*. *S. . . Brardii*, Bt.

" 17. *S. . . fissa*, Lx.

" 18. *S. . . obliqua*, Bt.

" 19,19*a*. *S. . . reticulata*, Lx.

" 20. *S. . . stellata*, Lx.
Geol. of Penna., 1858, Pl. xiv, f. 2, in parte.

" 21. *S. . . Schimperi*, Lx.
Ibid., Pl. xiv, f. 1, in parte.

Pl. LXXIV.

Figs. 1. *Stigmaria ficoides*, Bt. Size reduced.

" 2. *S. . . ficoides*, var. Goepp.
Fragment of surface, natural size.
Goepp. Gatt., Pl. ix, f. 8.

" 3. *S. . . ficoides* var. *undulata*, Goepp.
Ibid., Pl. ix, f. 9.

" 4. *S. . . ficoides* var. *stellata*, Goepp.
Ibid., Pl. x, f. 12, in parte.

" 6. *S. . . ficoides* var. *minus*, auct.

" 8. *S. . . umbonata*, Lx.
Ibid., Pl. ix, f. 7.

" 5, 7. *S. . . stellaris*, Lx.
F. 7, Geol. Rept. of Ills., iv, Pl. xxix, f. 3; f. 5, decorticated original spec.

" 9. *S. . . Halonia tuberculata?* Bt.
Ibid., Pl. xxix, f. 1.

"10–10*b*. Trunk of *Sigillaria Owenii*, Sp. nov.
With scars of the stem 10*a* and of the root 10*b*.

" 11. *Stigmaria*.
In situ, reduced. Schimp. Veget. Paleont., Pl. lxix, f. 2.

"12–13. *Stigmaria*.
Leaves, with terminal tuberous appendages.

Figs.14,15. *Knorria imbricata*, St.

PL. LXXV.

Figs. 1. *Stigmaria Evenii*, Lx.
Geol. Rept. of Ills., ii, Pl. xxxix, f. 9.

" 2. *Stigmarioides truncatus*, Lx.
Ibid., iv, Pl. xxix, f. 4.

" 3. *S. . . . . villosus*, Lx.
Ibid., Pl. xxxi, f. 1.

" 4. *S. . . . . tuberosus*, Lx.
Ibid., Pl. xxix, f. 5.

" 5. *S. . . . . linearis*, Lx.
Ibid., Pl. xxxi, f. 2.

" 6. *Sigillarioides radicans*, Lx.
Ibid., Pl. xxxi, f. 4.

" 7. *Rachiopterides affinis*, Lx.
Ibid., Pl. xxvii, f. 9.

" 8. *R. . . . . selago*, Lx.
Ibid., Pl. xxxi, f. 3.

" 9. *Rhizolites palmatifidus*, Lx.
Geol. Rept. of Arks., ii, Pl. v, f. 9.

" 10–10*b*. *Pachypteris gracillima*, Lx.
Geol. Rept. of Ills., iv, Pl. xix, f. 6–8.

" 11. *Spirangium multiplicatum*, Sp. nov.

" 12. *S. . . . . appendiculatum*, Lx.
Ibid., Pl. xxvii, f. 11.

" 13–15. *S. . . . . Prendelii*, Lx.
Ibid., Pl. xxvii, f. 10, 12, 13.

" 16. *Bornia approximata*, Sp. nov.

" 17. *Calamites? gracilis*, Sp. nov.

PL. LXXVI.

Figs. 1–2*a*. *Cordaites validus*, Lx.

" 3–3*b*. *C. . . borassifolius*, Ung.

" 4–4*b*. *C. . . Mansfieldi*, Lx. (Stem and flowers.)

" 5–6*b*. *Cordianthus gemmifer*, Gr. d'H.

PL. LXXVII.

Figs. 1–2*a*. *Cordaites grandifolius*, Lx.

" 3, 3*a*. *C. . . diversifolius*, Lx.

" 4–4*b*. *C. . . gracilis*, Lx.

PL. LXXVIII.

Figs. 1–2. *Cordaites Mansfieldi*, Lx.

Pl. LXXIX.

Figs. 1–4. *Cordaites serpens*, Lx.

Pl. LXXX.

Figs. 1–3. *Cordaites costatus*, Lx.
" 4. *Tæniophyllum decurrens*, Lx.

Pl. LXXXI.

Figs. 1. *Tæniophyllum decurrens*, Lx.
" 2. Stem of *Cordaites* with axis of *Artisia*.

Pl. LXXXII.

Figs. 1. *Desmiophyllum gracile*, Sp. nov.
" 2, 2*a*. *Tæniophyllum contextum*, Lx.
" 3–4*a*. *Cordaistrobus Grand'Euryi*, Lx.

Pl. LXXXIII.

Figs. 1–3. *Dicranophyllum dimorphum*, Lx.
" 4. *Tæniophyllum deflexum*, Lx.
" 5. *Lepidoxylon anomalum*, Lx.
" 6–11. *Cordaicarpus Gutbieri*, Gr. d'H.

Pl. LXXXIV.

Figs. 1. *Lepidoxylon anomalum*, Lx.

ERRATUM.

On page 16, Pl. LXXV, line 16 should read:—
Calamodendron Species.

" 6, 6. *T.* . . . . *Grayoni*, Sp. nov.
" 7–8*a*. *T.* . . . . *olivæformis?* St.
" 9, 10. *T.* . . . . *subcylindricus*, Sp. nov.
" 11. *T.* . . . . *Menzelianus*, Goepp. & Ber.
" 12, 13. *T.* . . . . *ornatus*, Newb.
Geol. Rept. of Ohio, i, Pl. xlii, f. 7, 7*a*.
" 14. *Rhabdocarpus clavatus*, St.
Geol. Rept. of Ills., iv, Pl. xxxi, f. 11.

Figs. 15. *Rhabdocarpus cornutus*, Sp. nov.
" 16. *Carpolithes bifidus?* Lx.
"17–19. *C. . . . Jacksonianus*, Lx.
" 20. *Rhabdocarpus clavatus?* Gein.
" 21. *R. . . . . Mansfieldi*, Sp. nov.
"22, 23. *R. . . . . multistriatus?* St.
" 24. *R. . . . . Howardi*, Sp. nov.
" 26. *R. . . . . insignis*, Sp. nov.
"27, 28. *R. . . . . amygdalæformis*, Goepp.
" 29. *R. . . . . platimarginatus*, Lx.
Geol. Rept. of Arks., ii, Pl. iv, f. 6.
"30, 30*a*. *R. . . . . fasciculatus*, Lx.
"31, 31*a*. *Carpolithes regularis?* St.
"32–33*a*. *Cardiocarpus mamillatus*, Lx.
Fig. 33, 33*a*, Geol. Rept. of Ills., iv, Pl. xxxi, f. 12, 13.
"34, 35. *C. . . . ingens*, Lx.
Geol. Rept. of Arks., ii, Pl. iv, f. 4, 4*a*.
"36, 37. *C. . . . annulatus?* Newb.
" 38. *C. . . . minor*, Newb.
Geol. Rept. of Ohio, i, Pl. xliii, f. 4.
" 39. *C. . . . affinis*, Lx.
Geol. Rept. of Arks., ii, Pl. iv, f. 5.
" 40. *C. . . . orbicularis*, Newb.
Geol. Rept. of Ohio, ii, Pl. xliii, f. 10.
" 41. *C. . . . elongatus*, Newb.
Ibid., Pl. xliii, f. 5.
"42, 43. *C. . . . bicuspidatus*, St.
Ibid., Pl. xliii, f. 9, 9*a*.
"44, 45. *C. . . . zonulatus*, Sp. nov.
"46, 47. *C. . . . late-alatus*, Sp. nov.
"48, 50. *C. . . . simplex*, Sp. nov.
"51, 51*a*. *Ptilocarpus bicornutus*, Sp. nov.
52. *Carpolithes rostellatus*, Lx.

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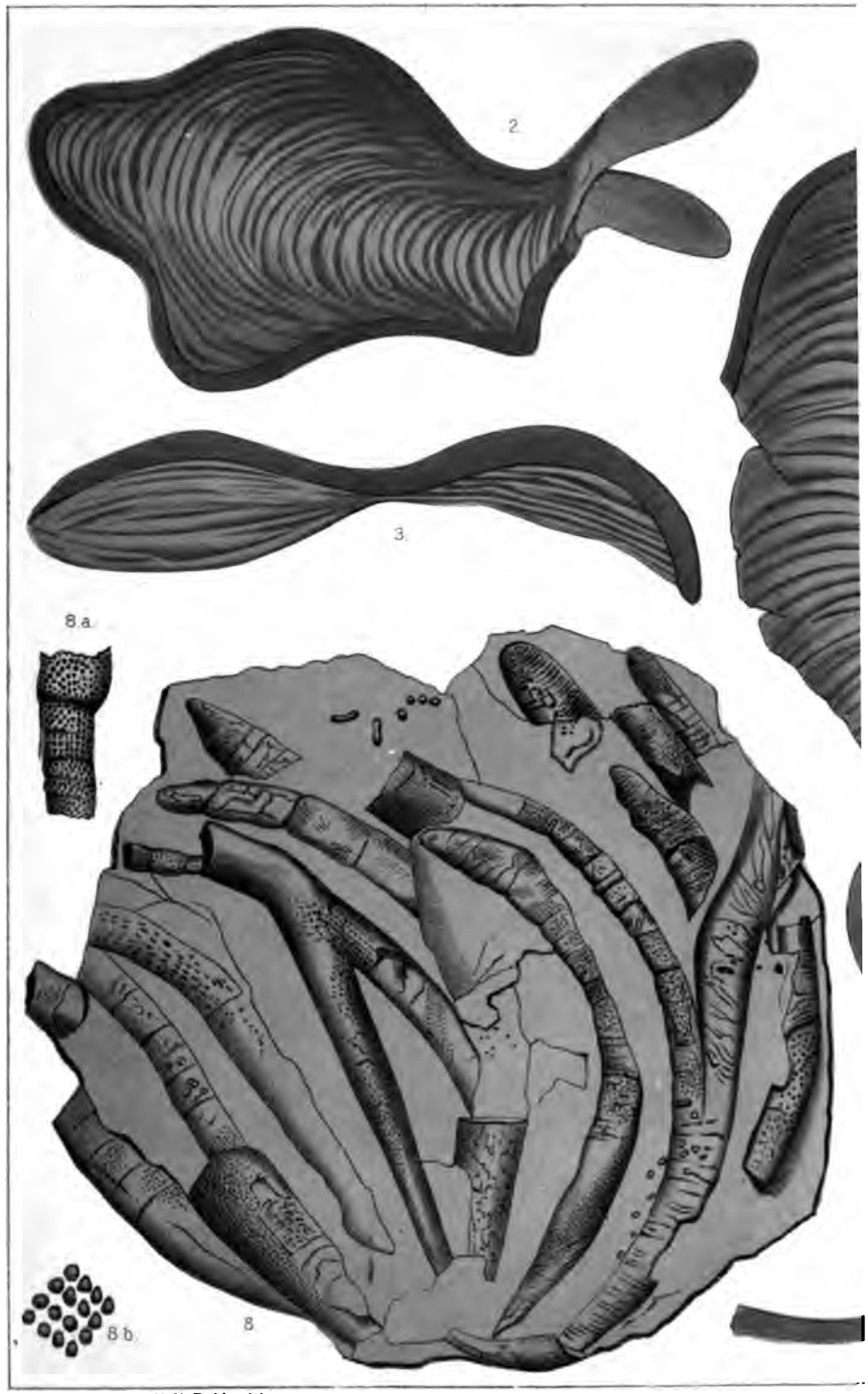

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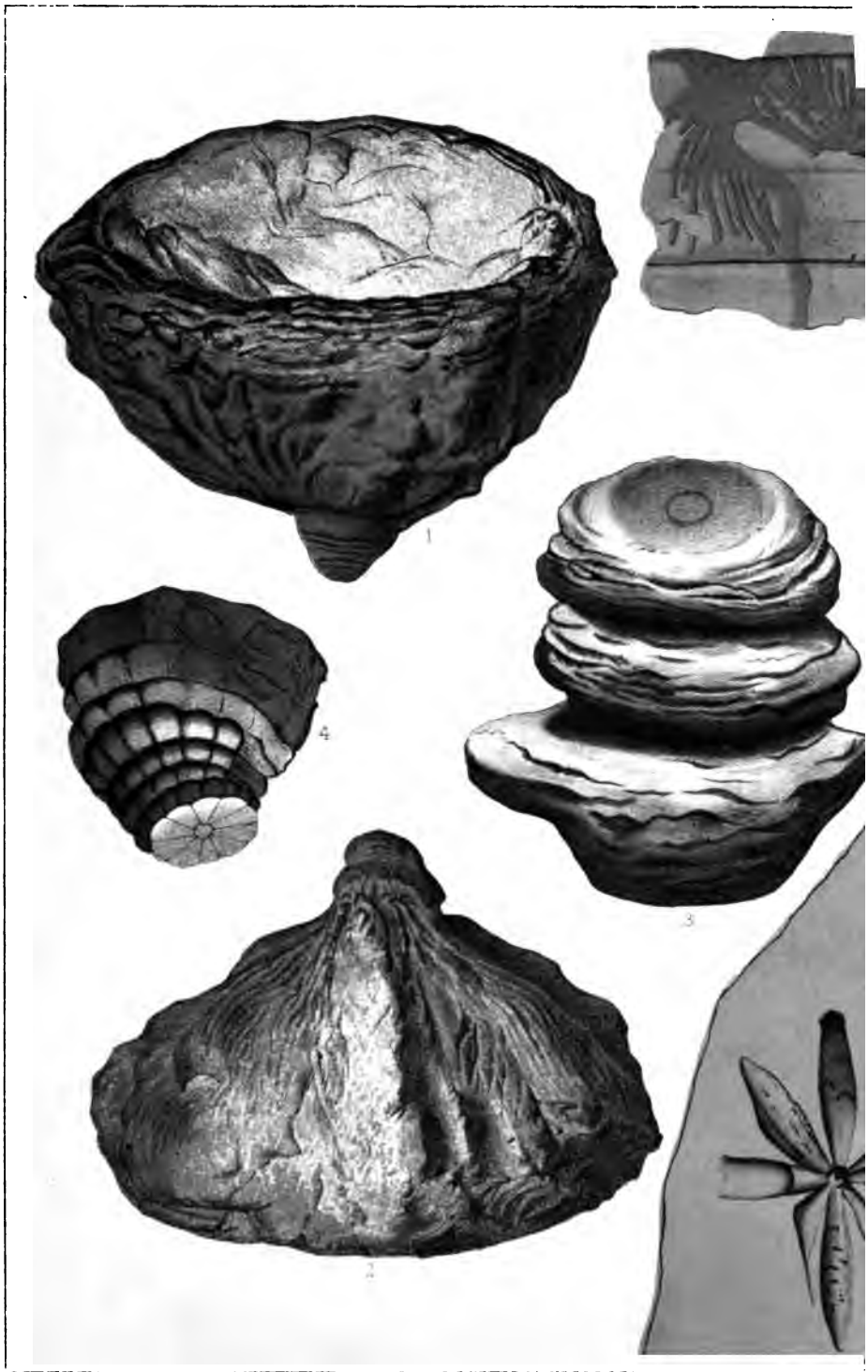

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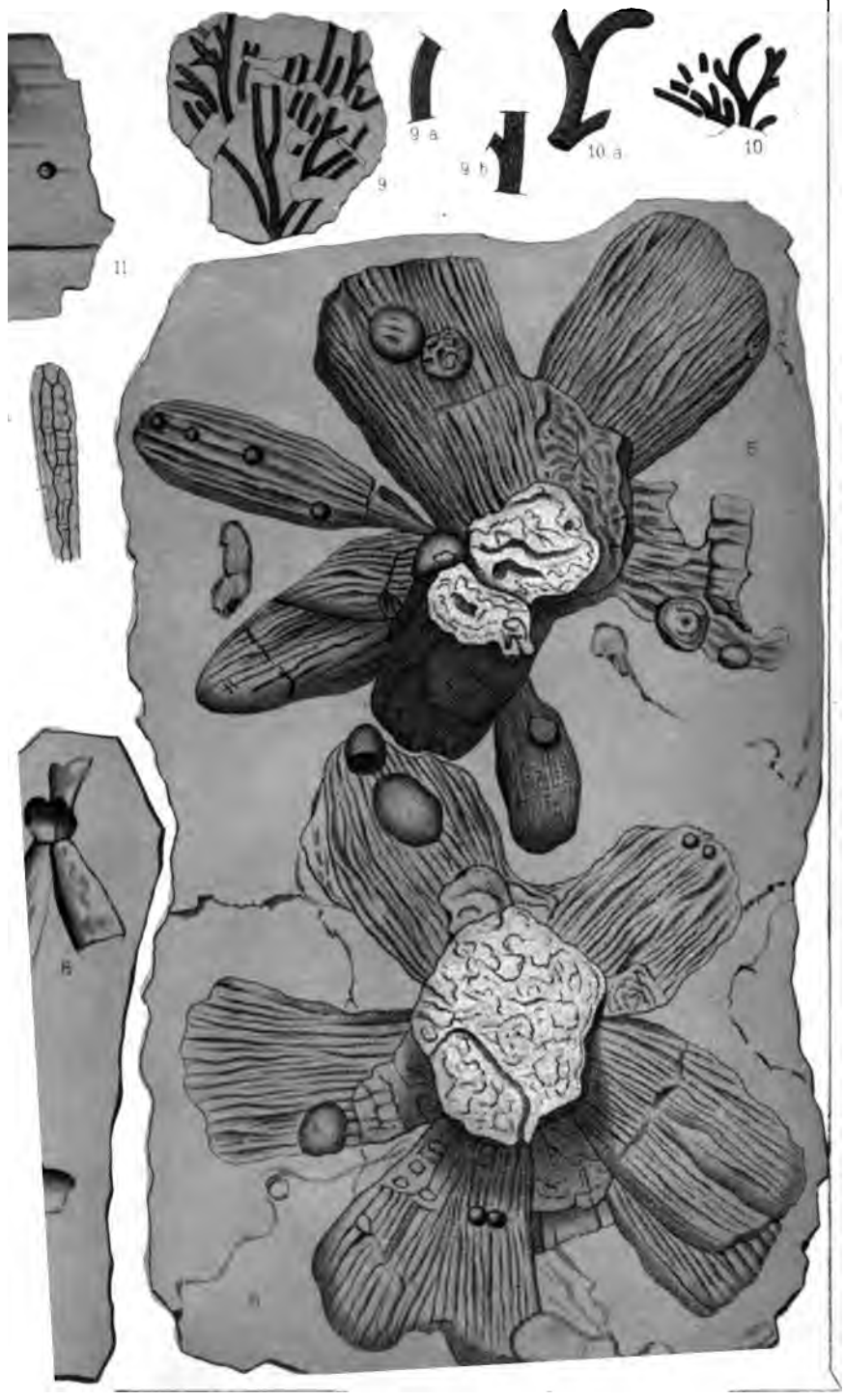

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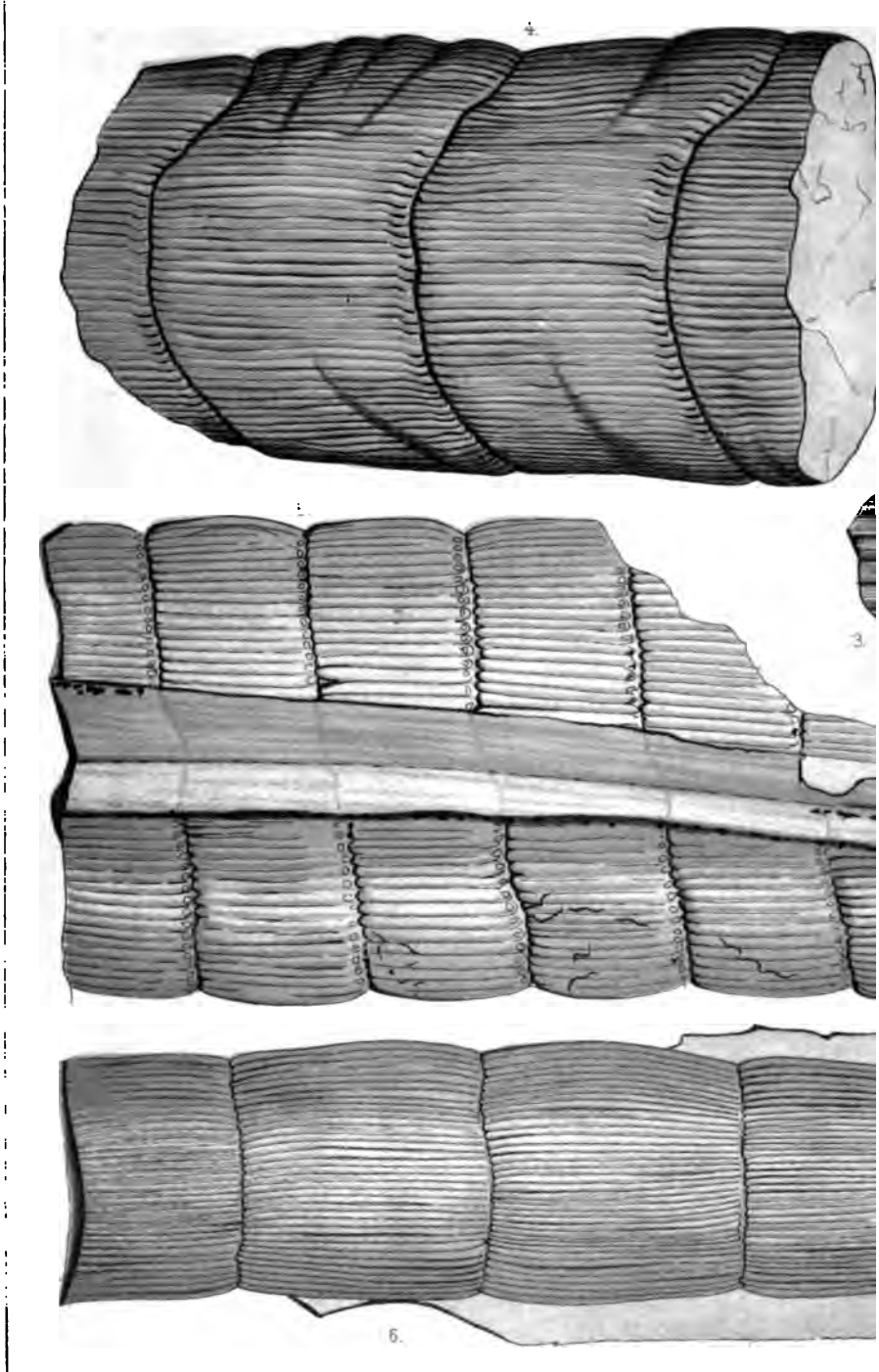
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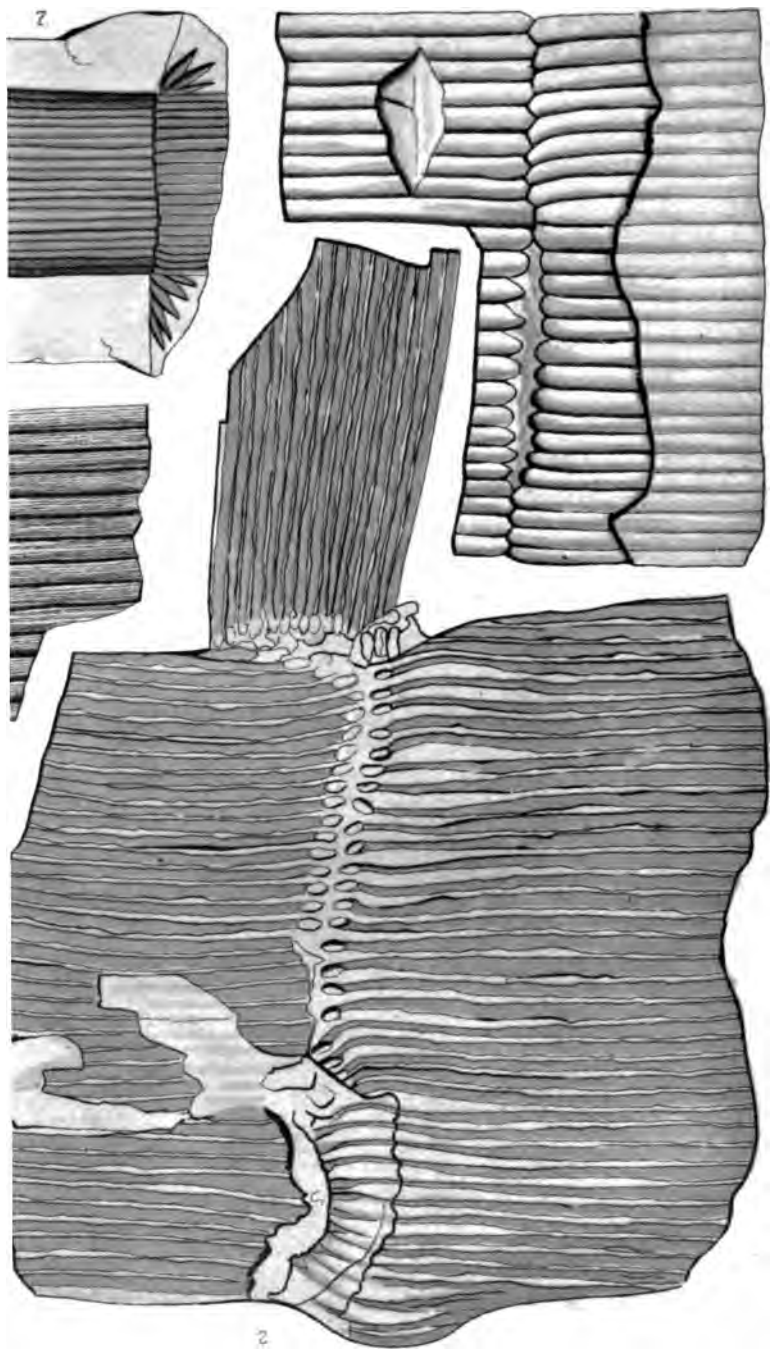

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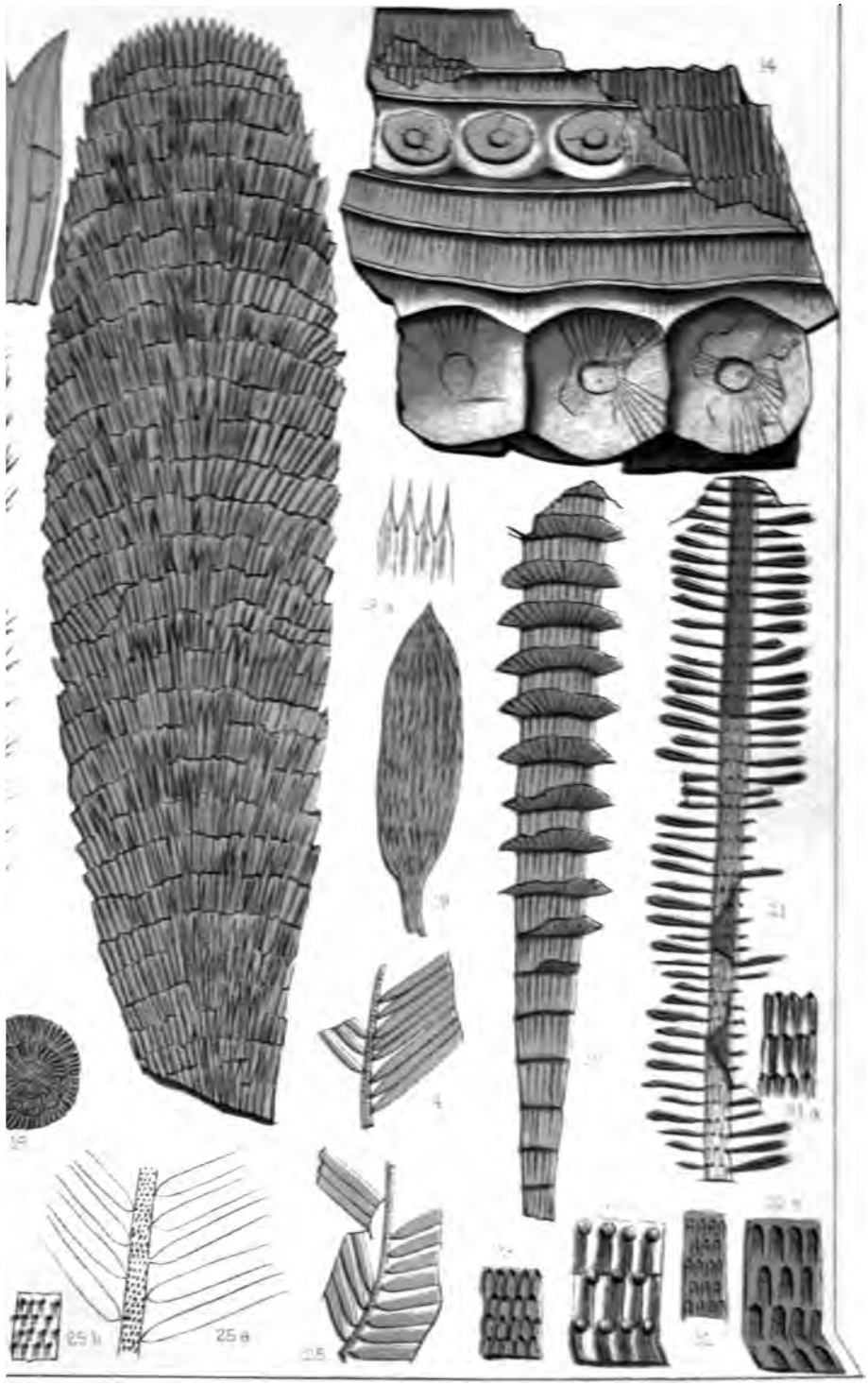

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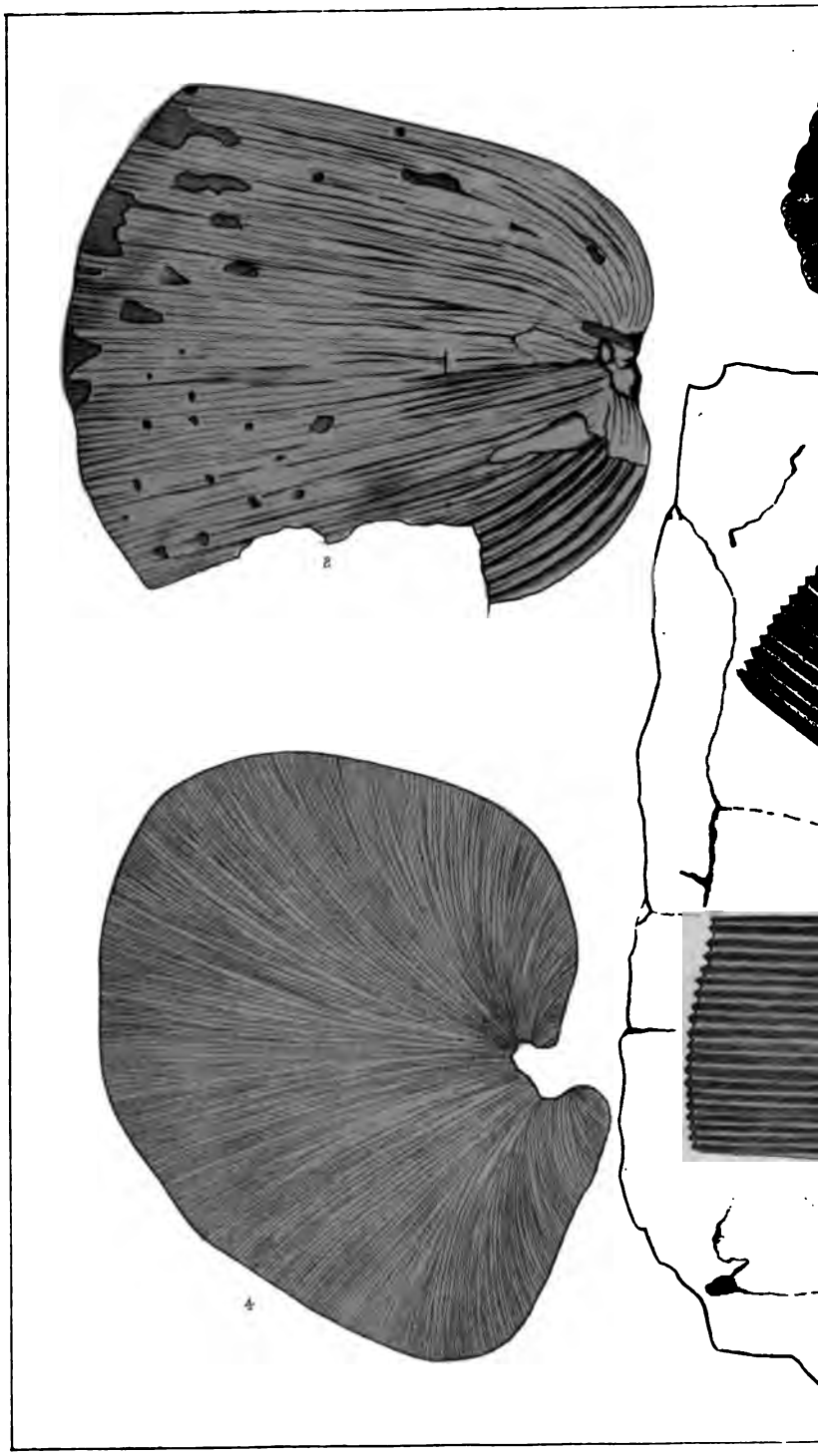

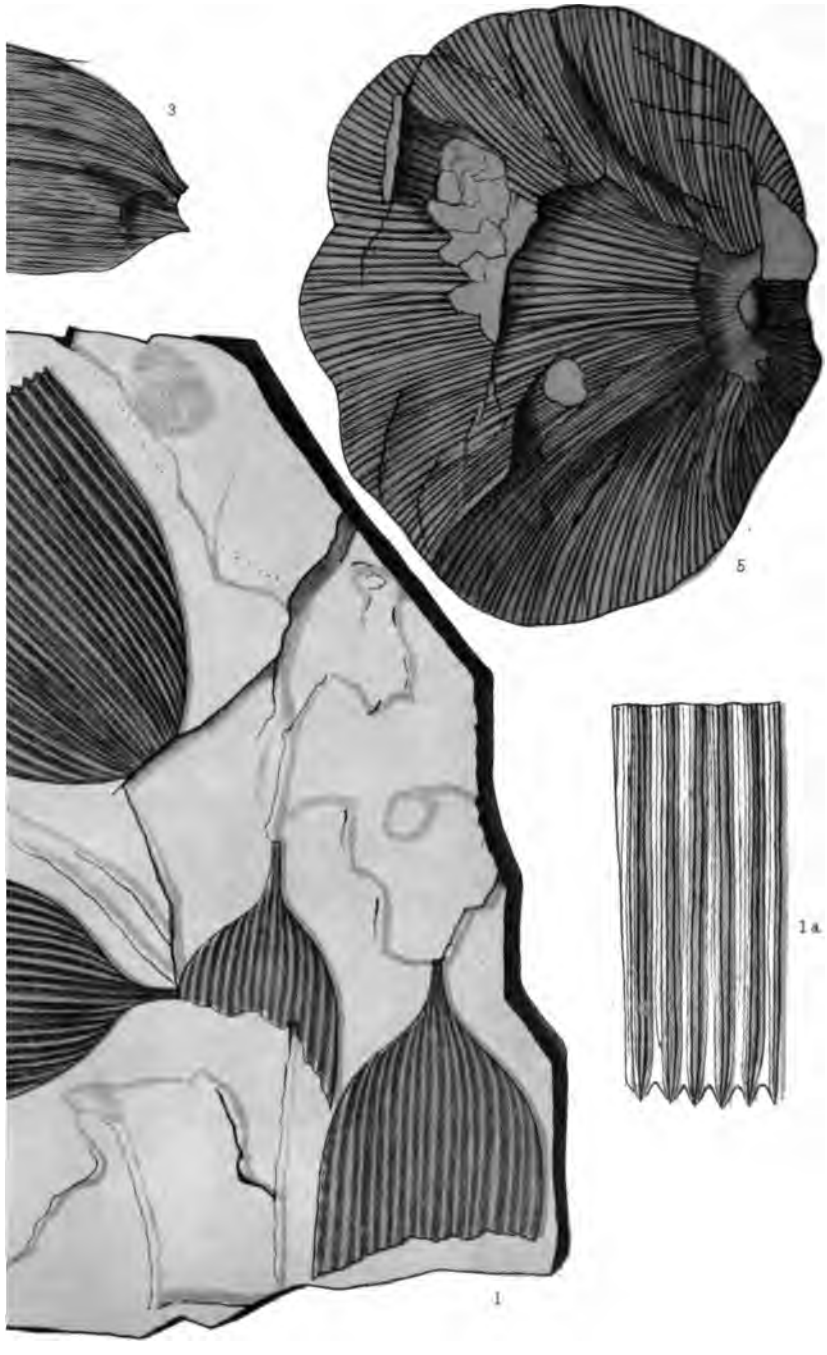

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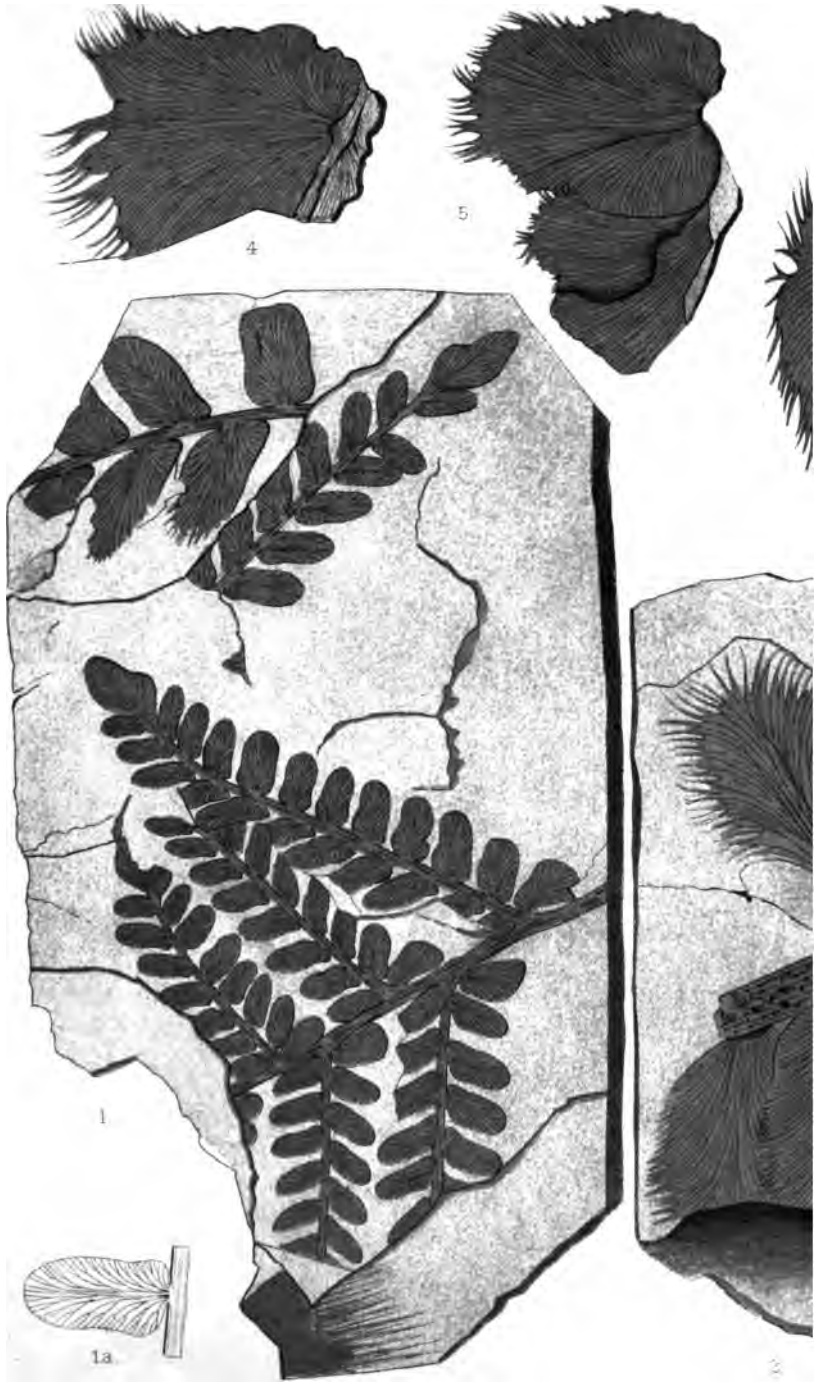

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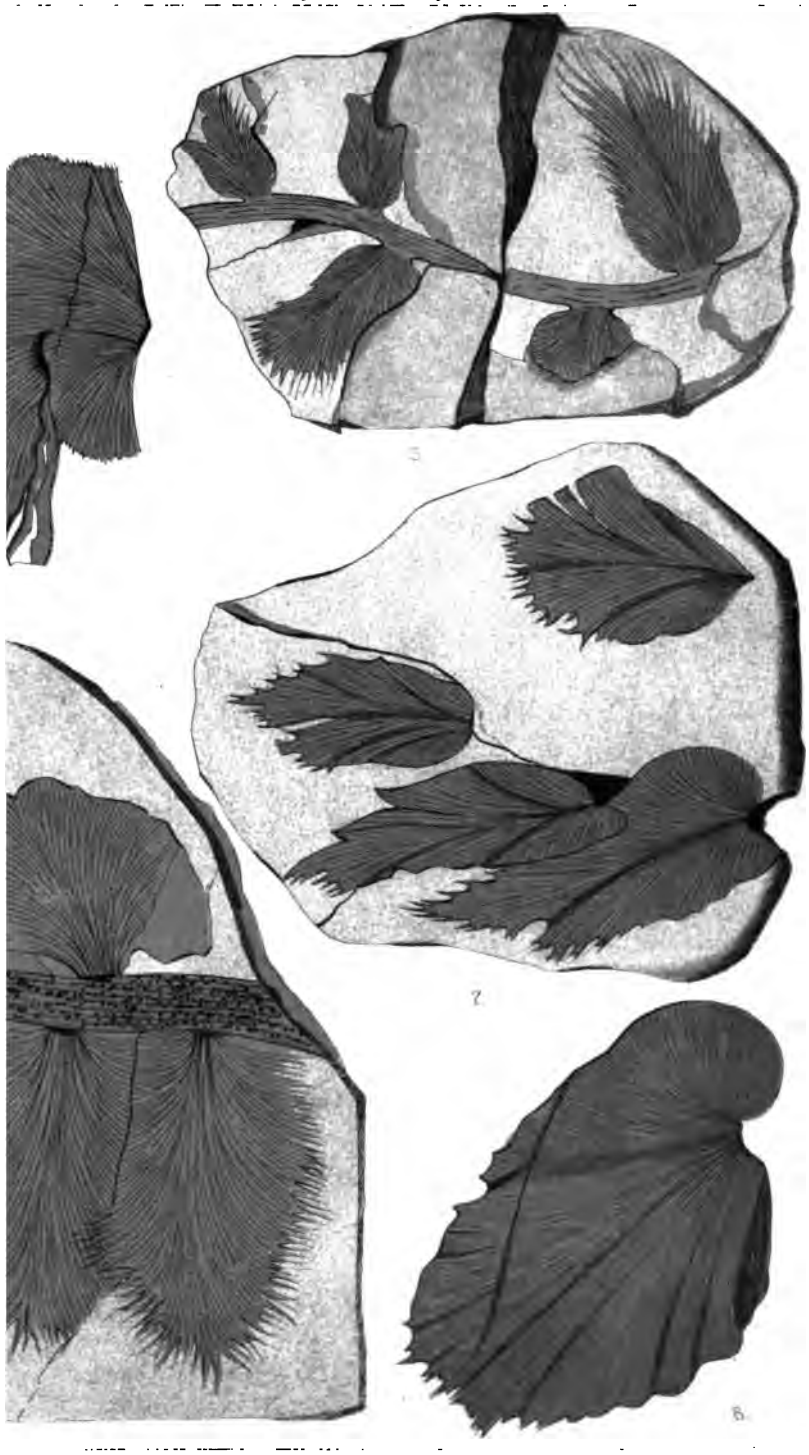

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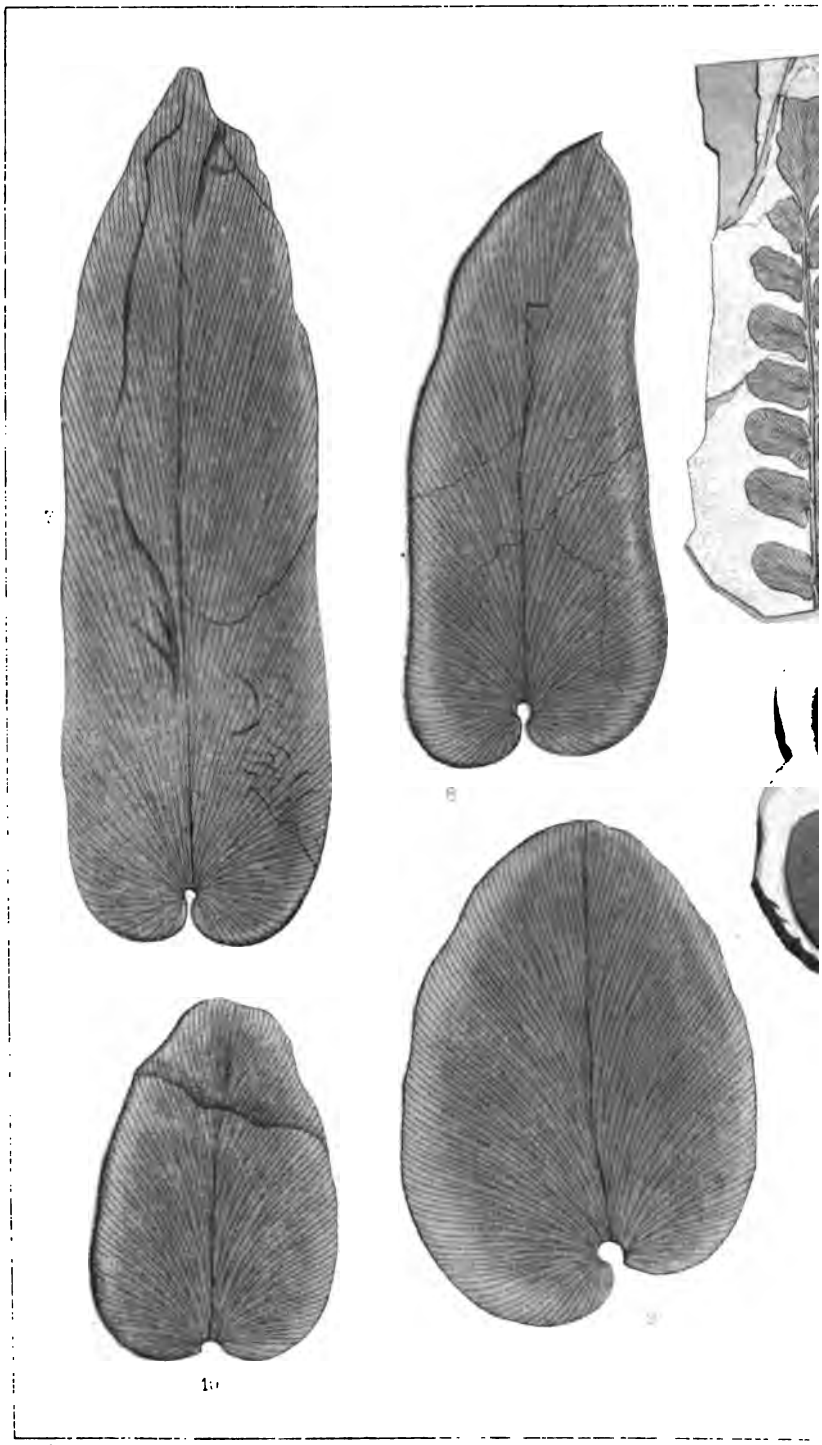

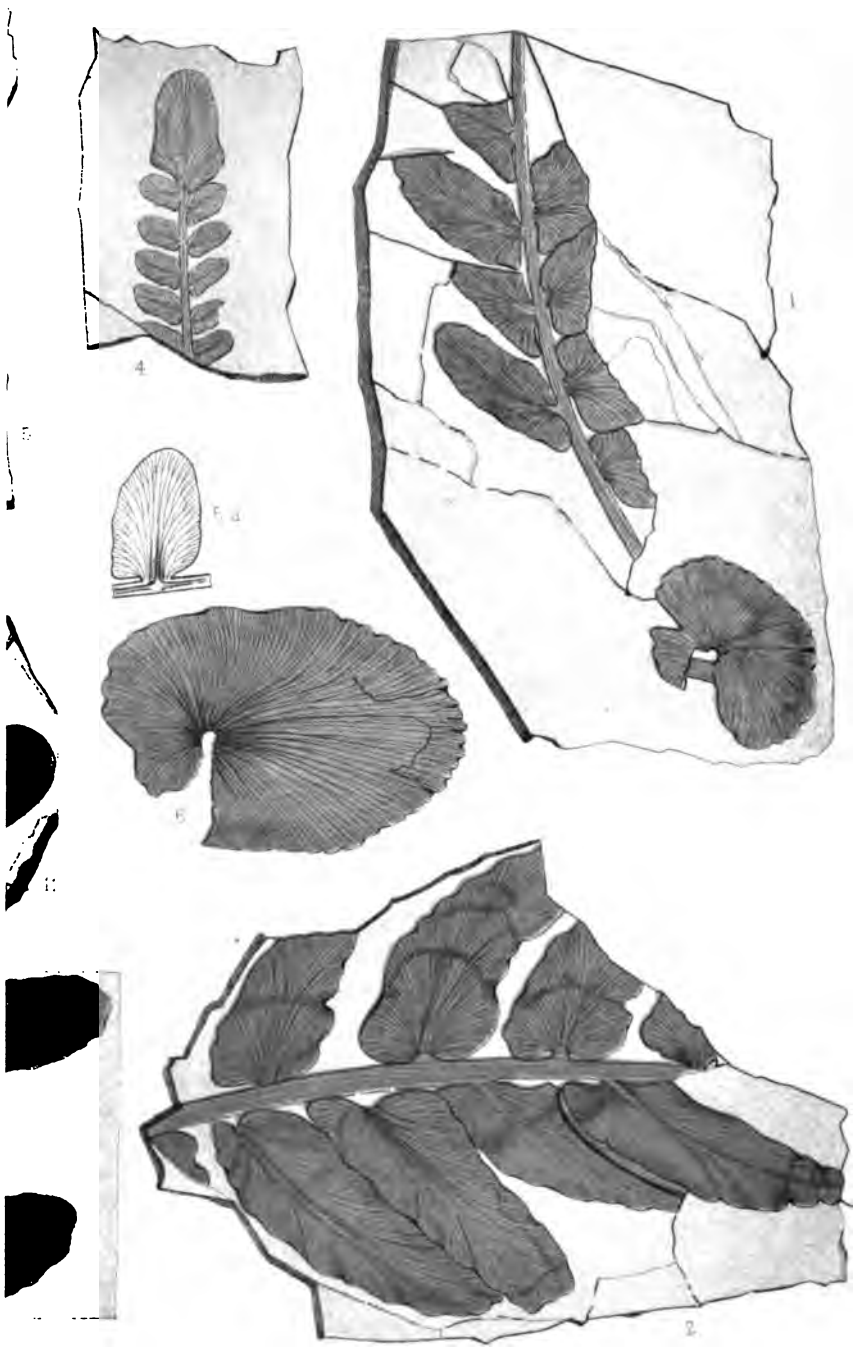

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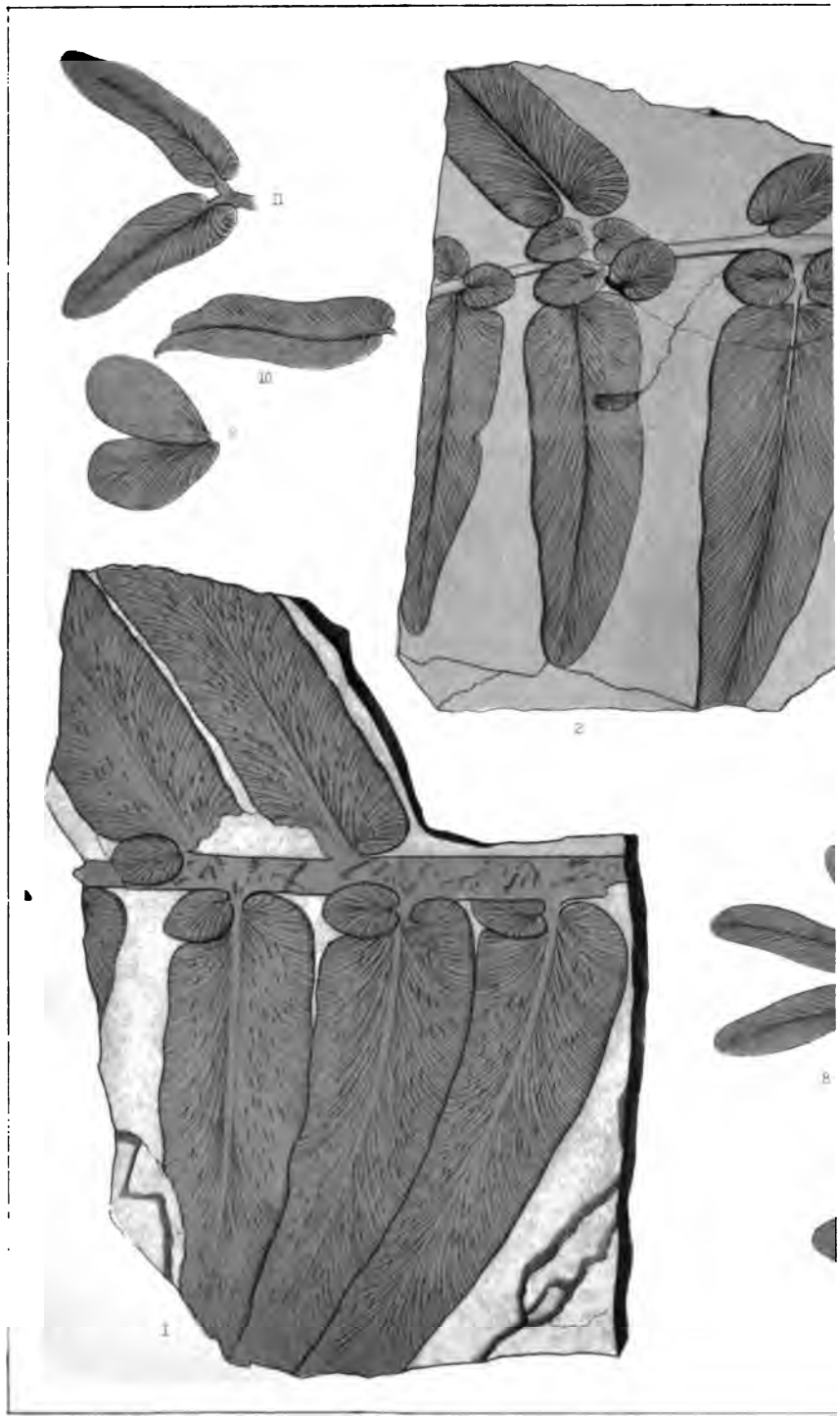

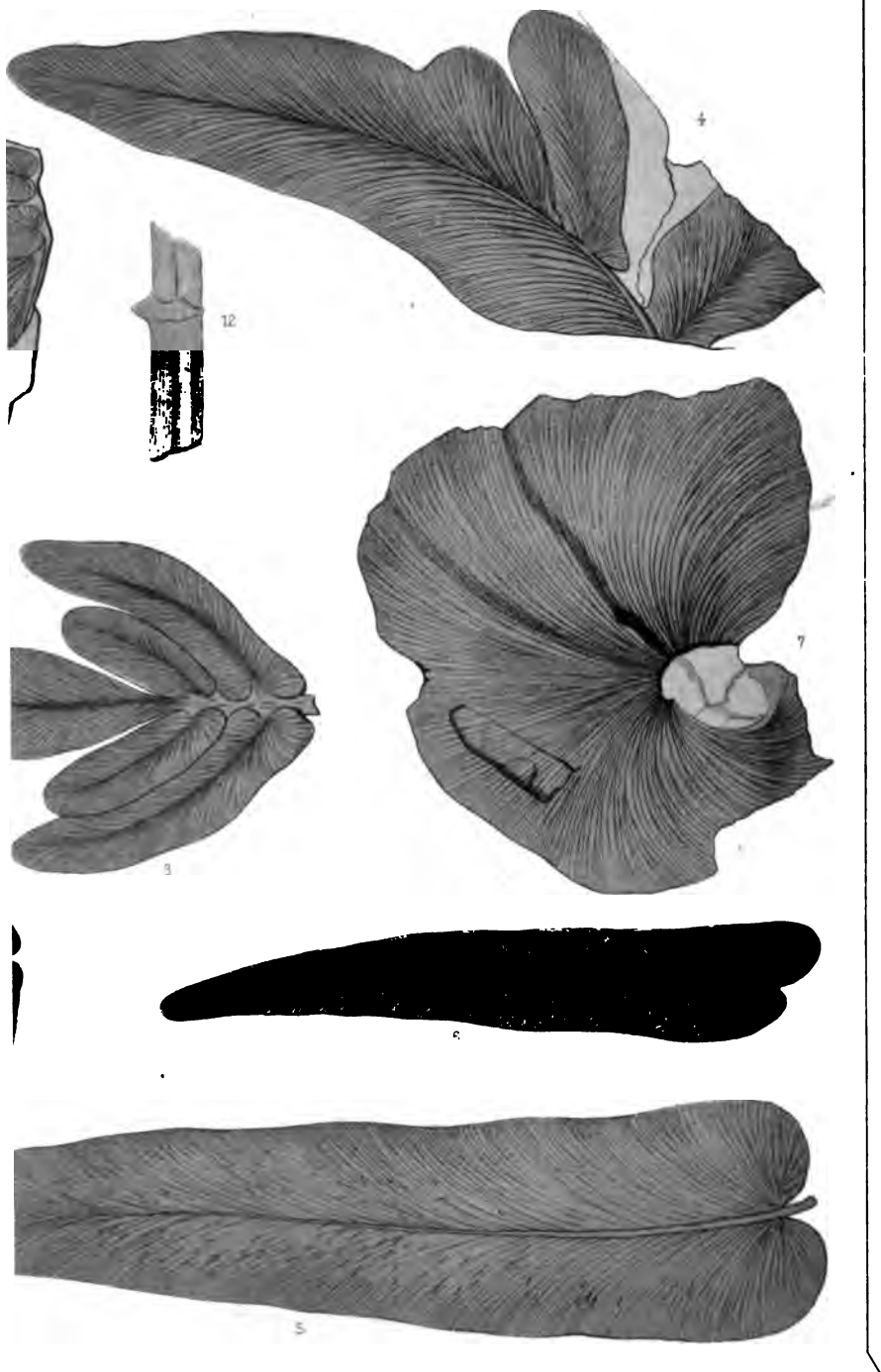

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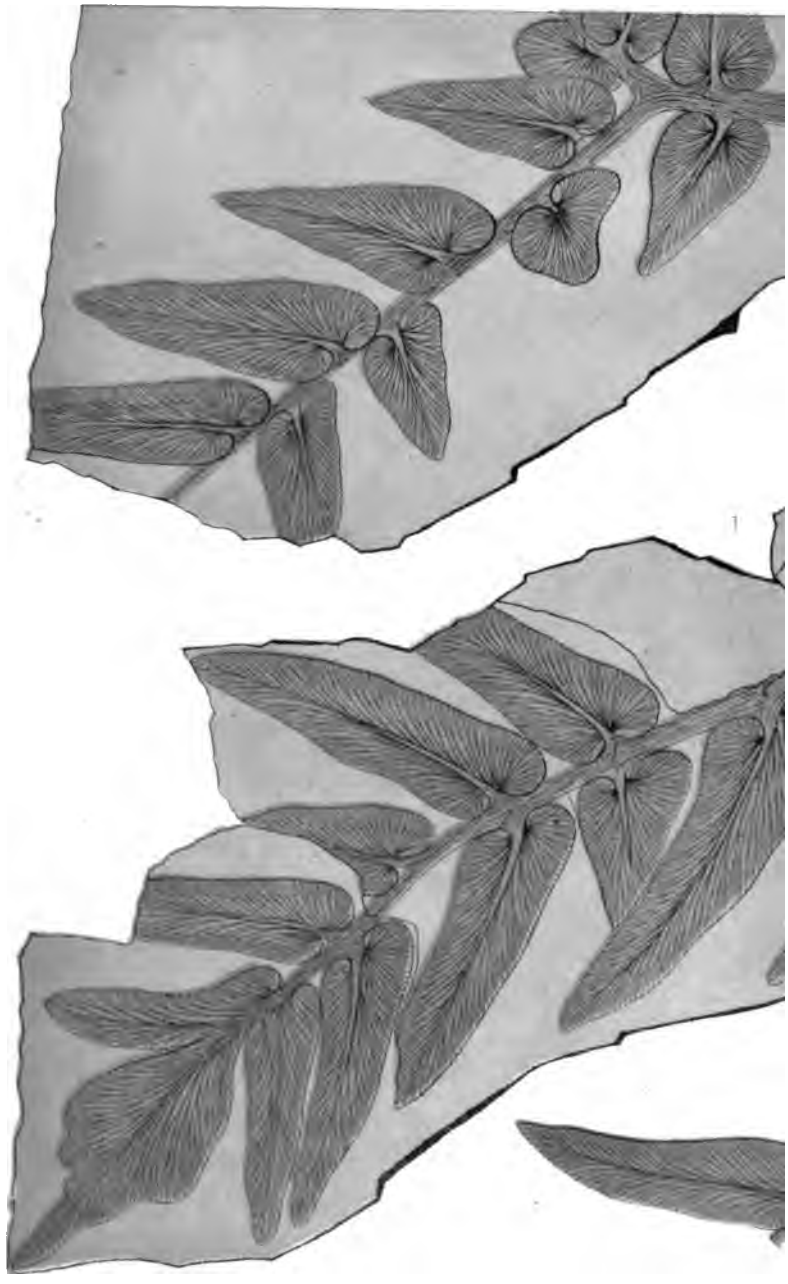

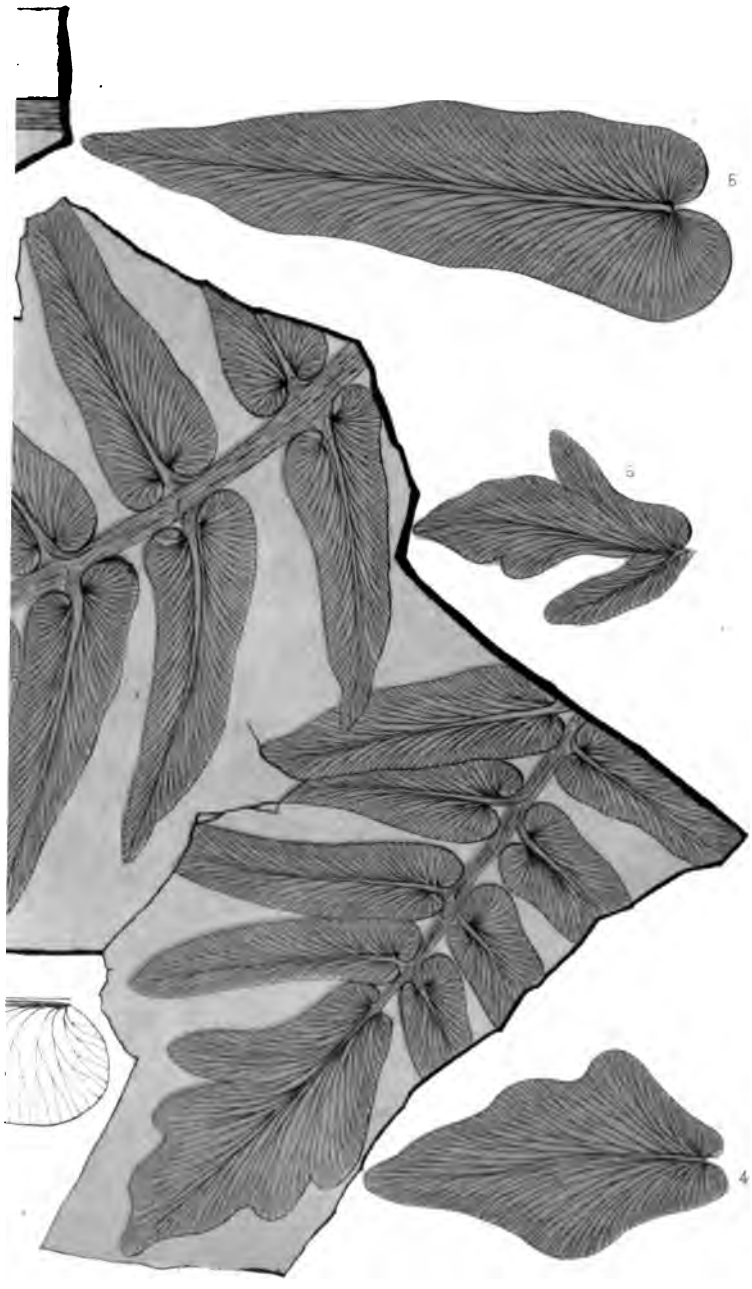

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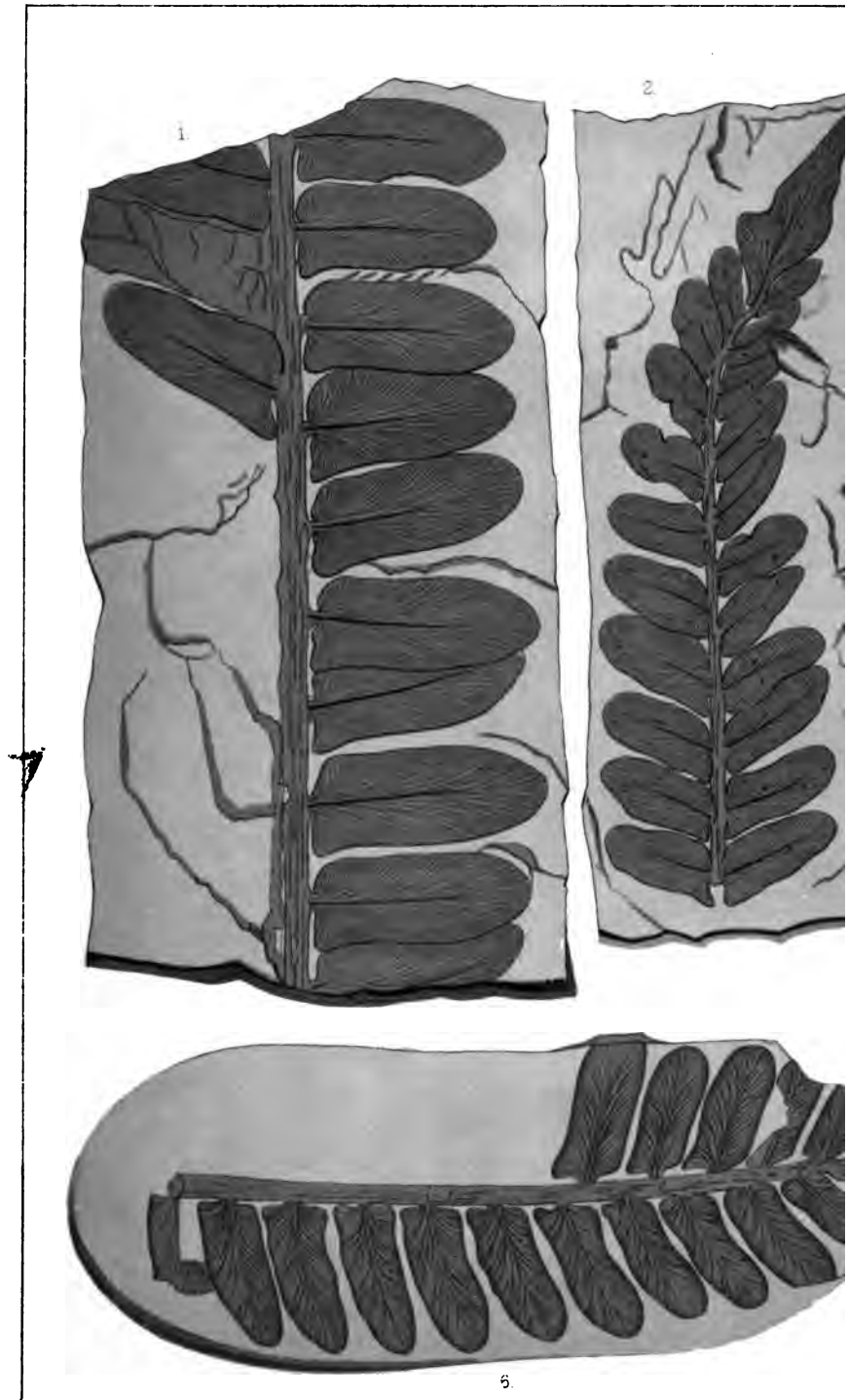

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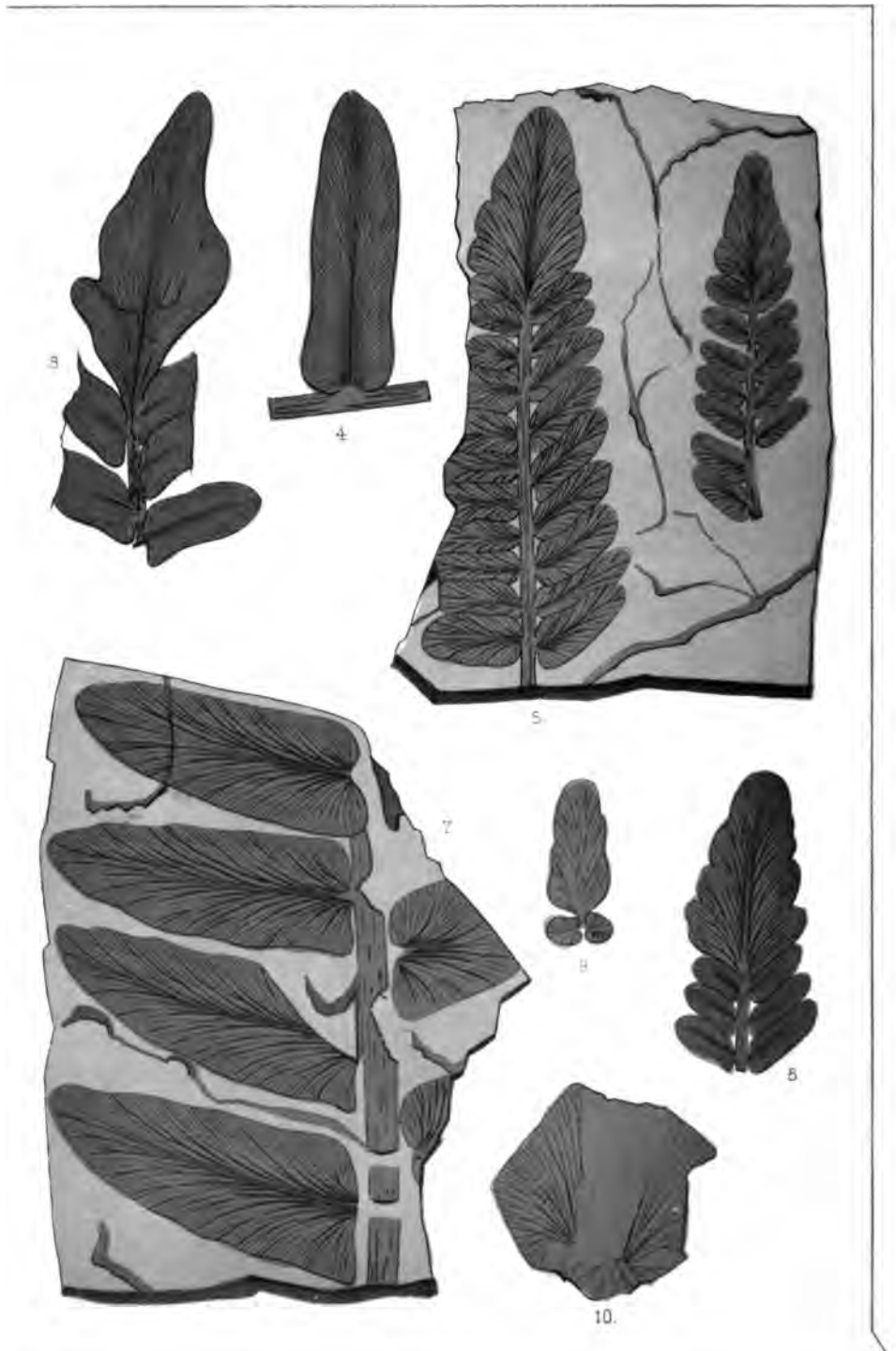

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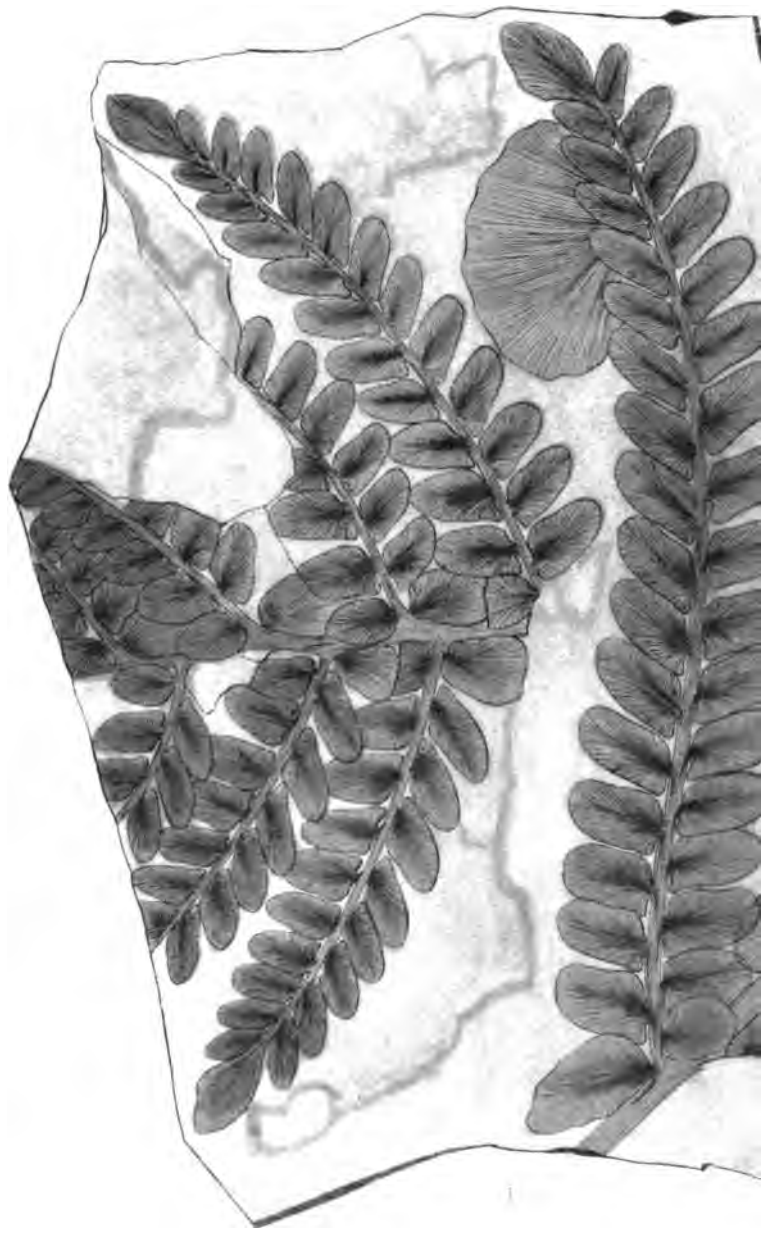

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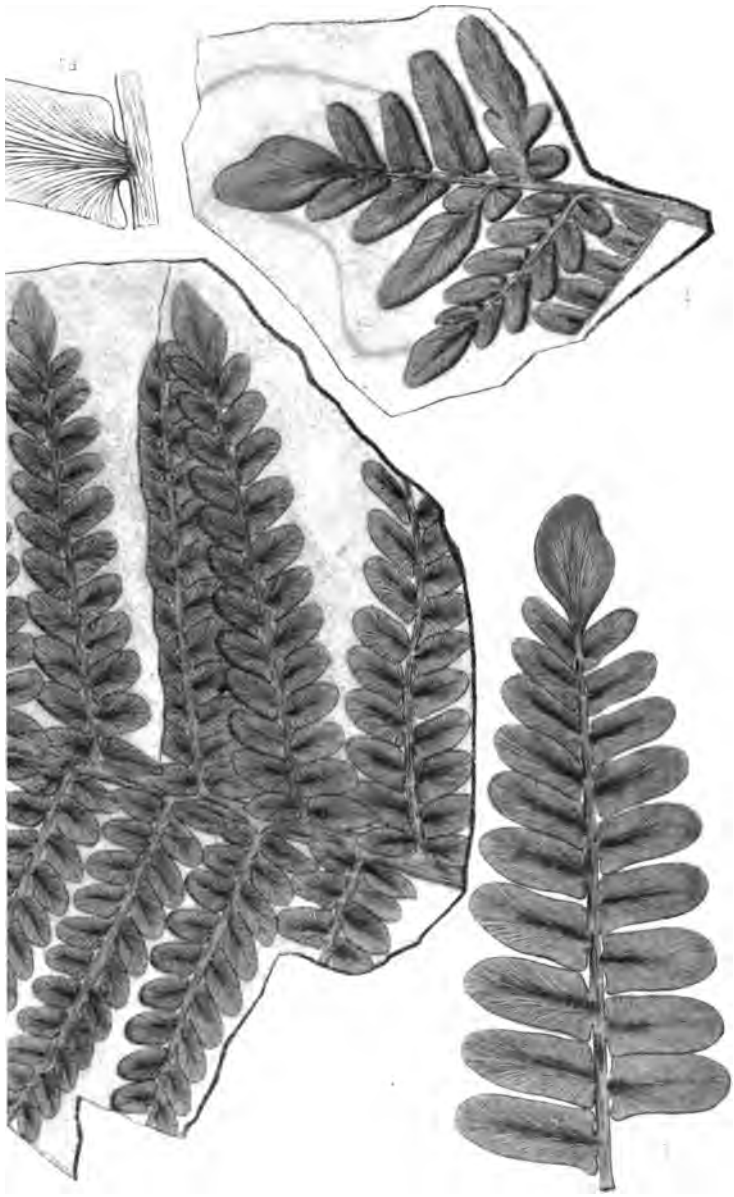

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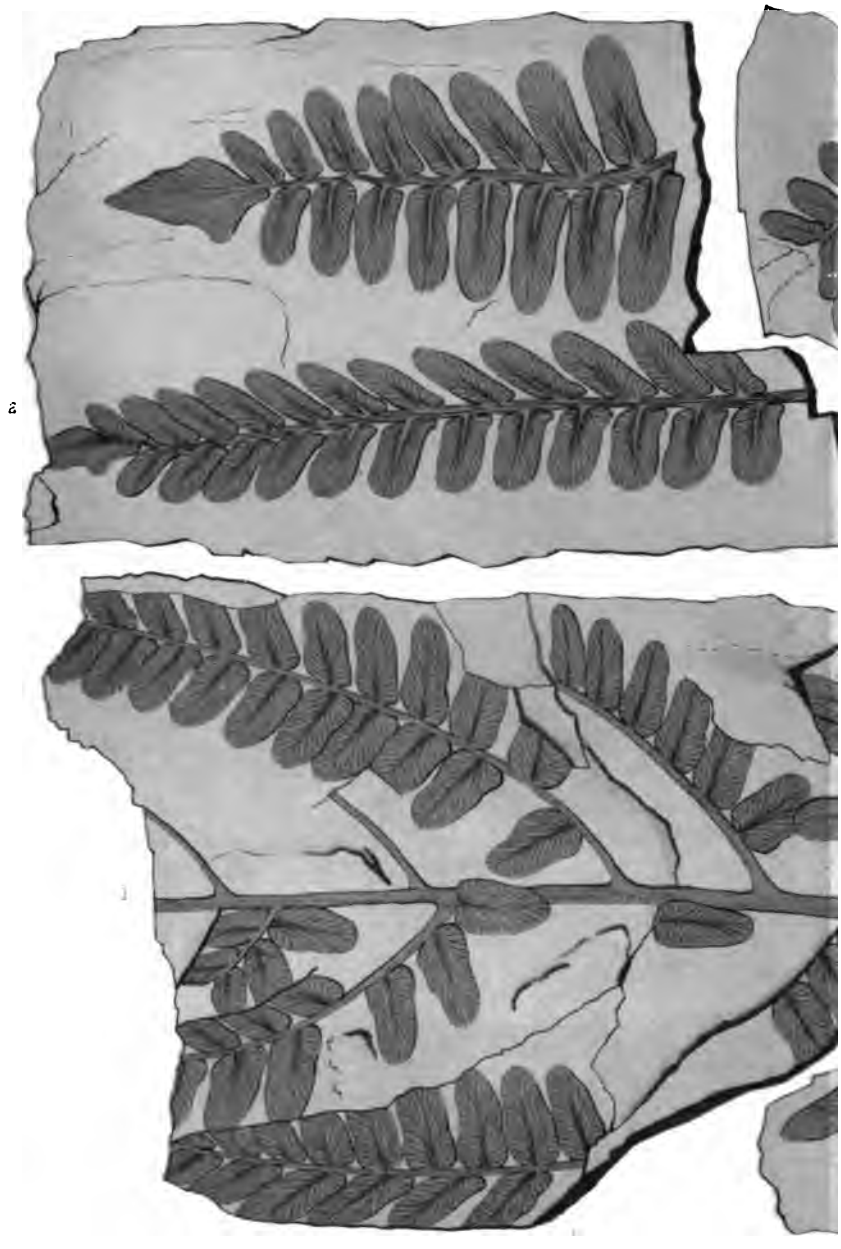

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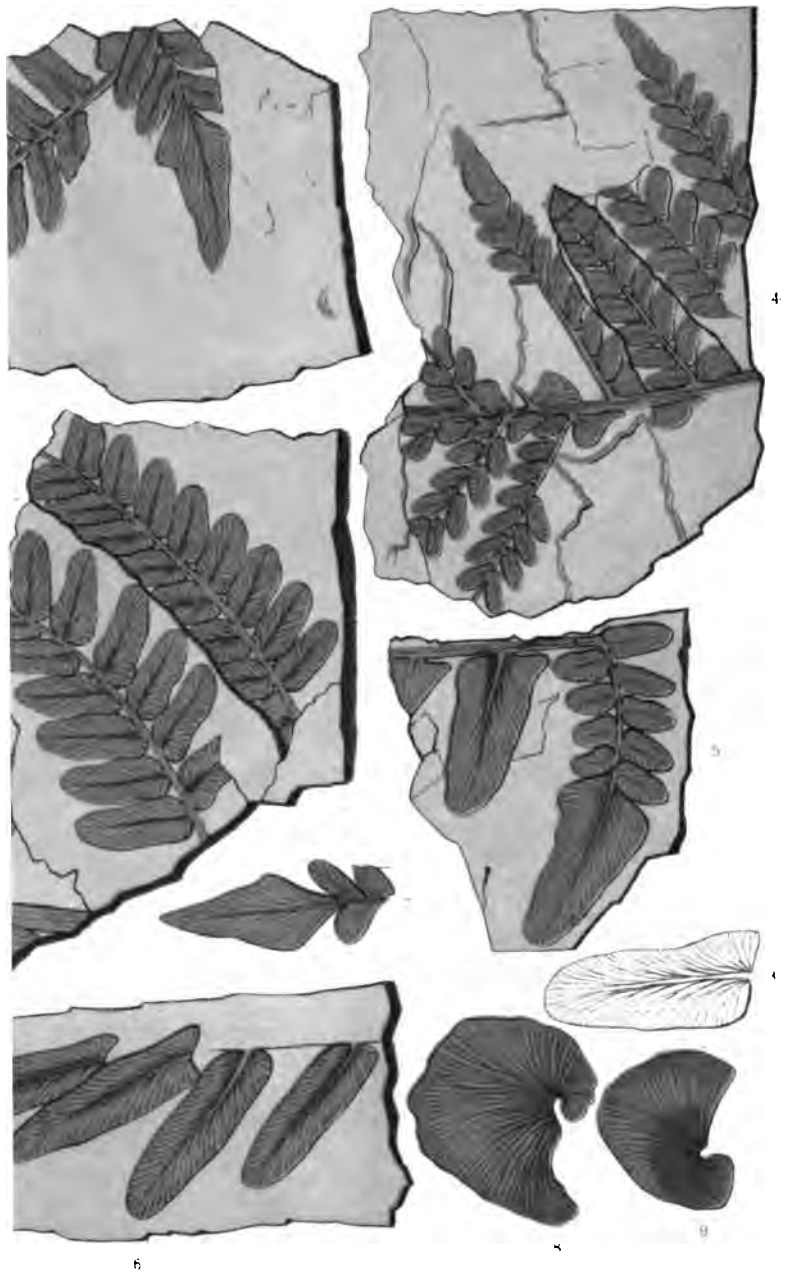

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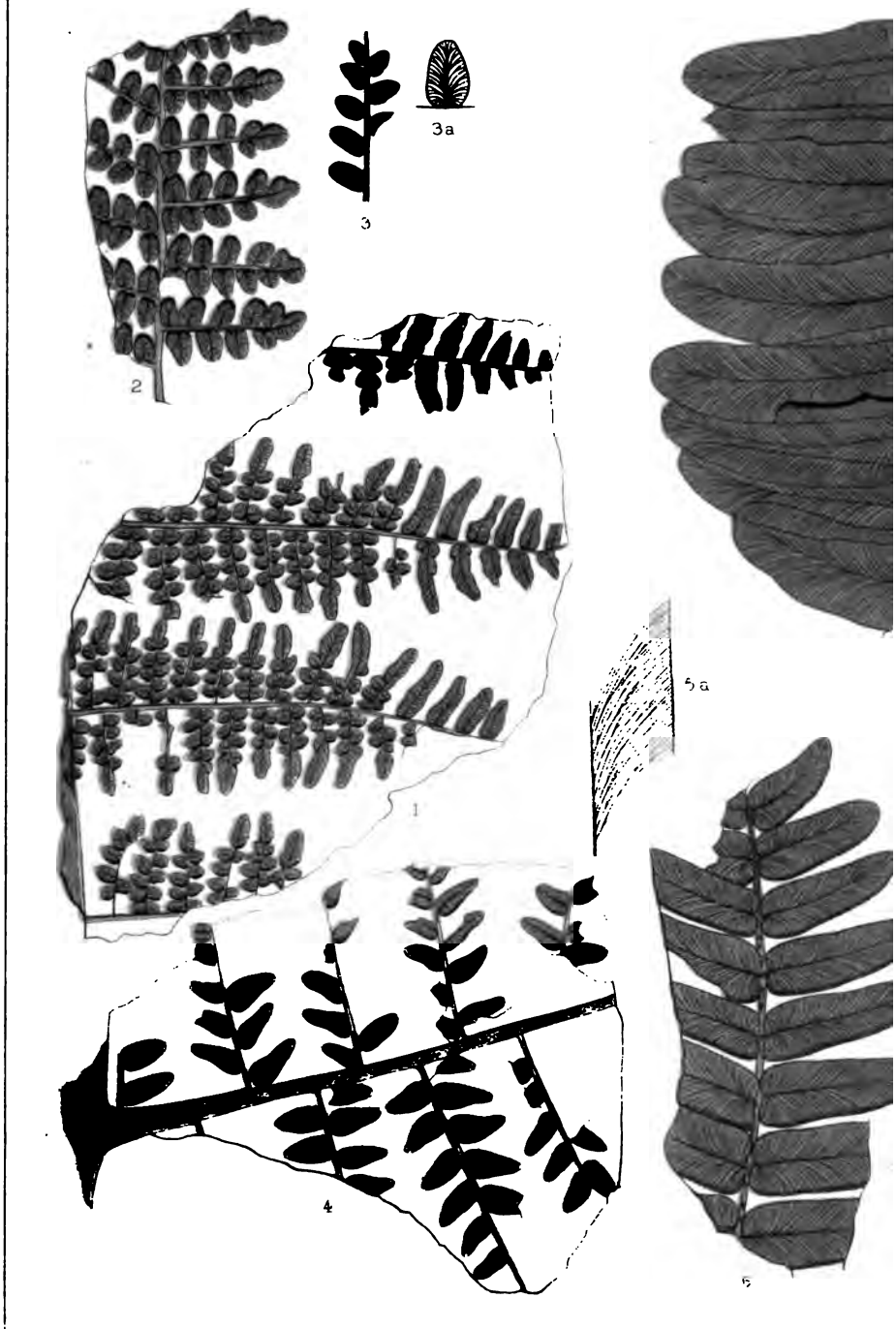

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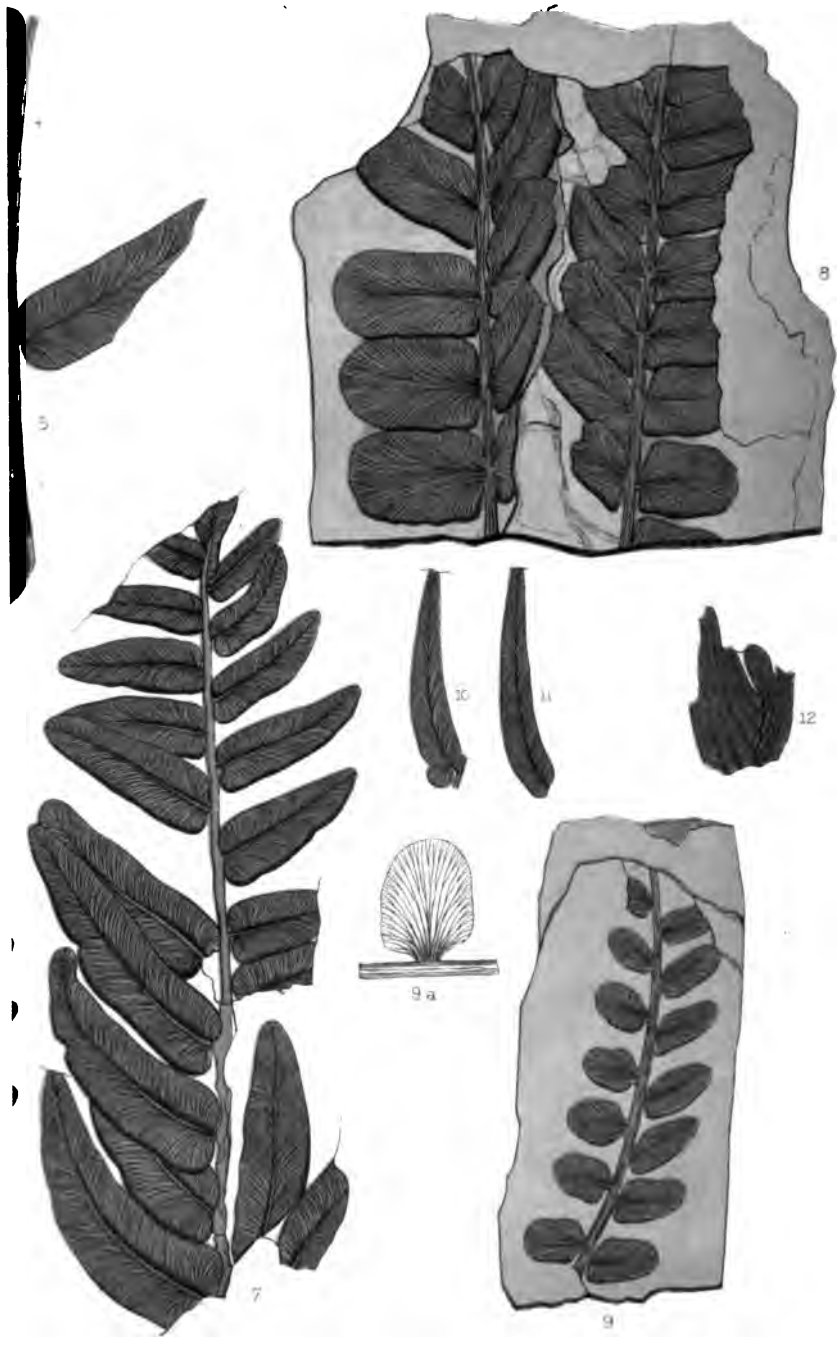

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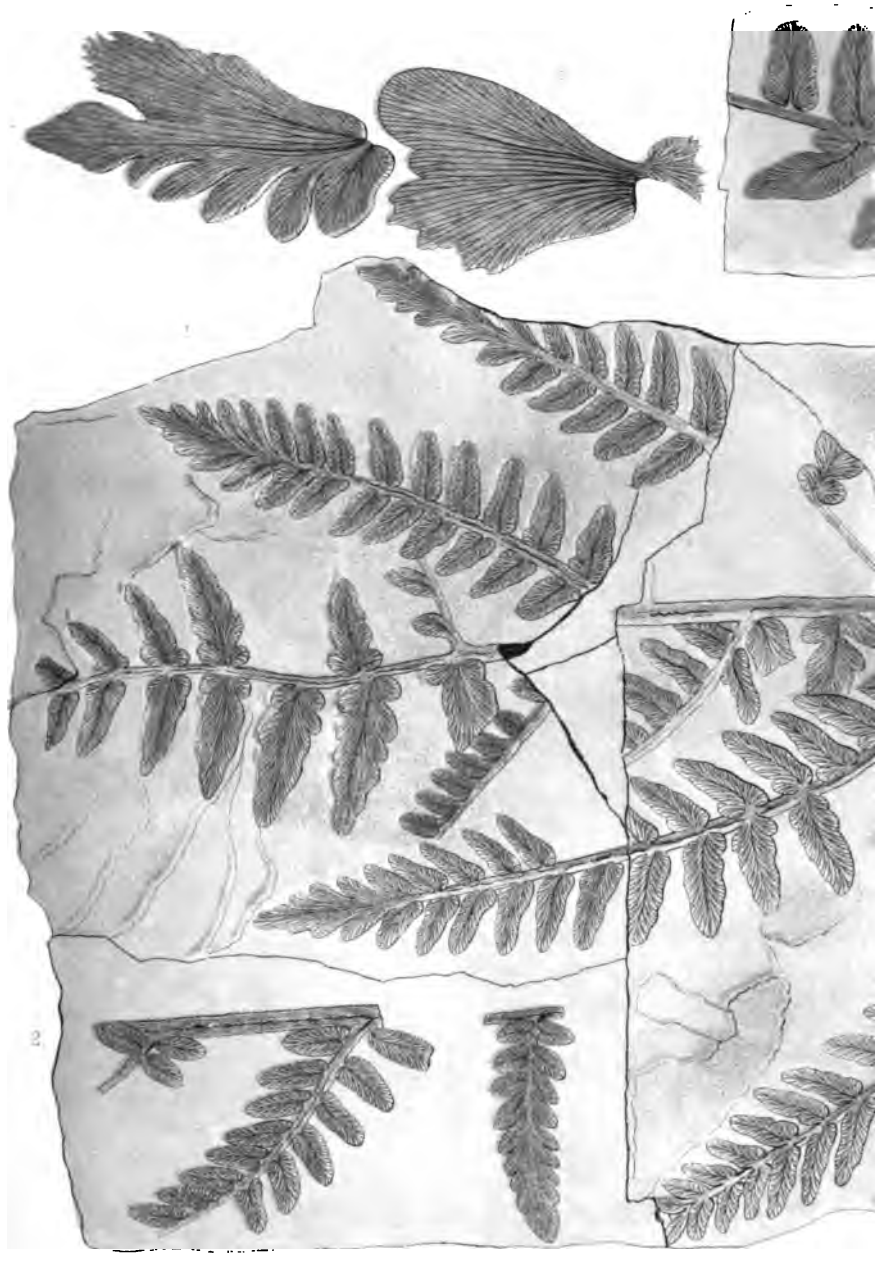

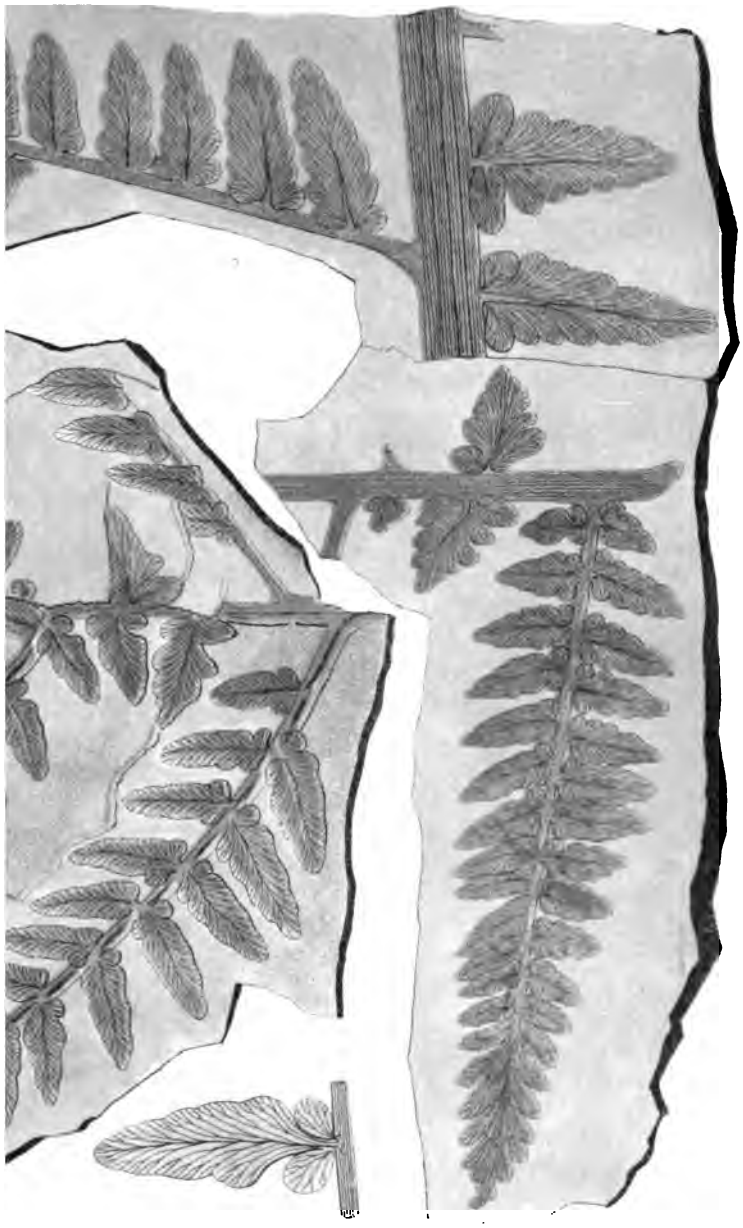

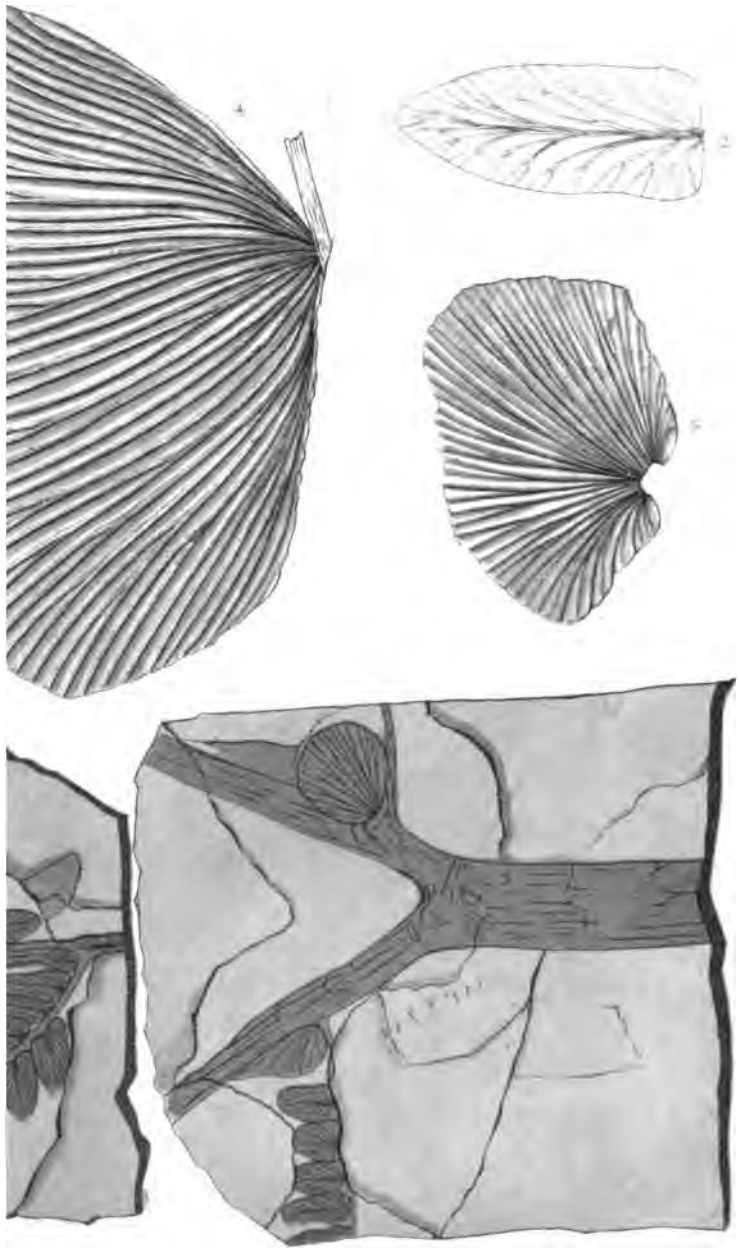

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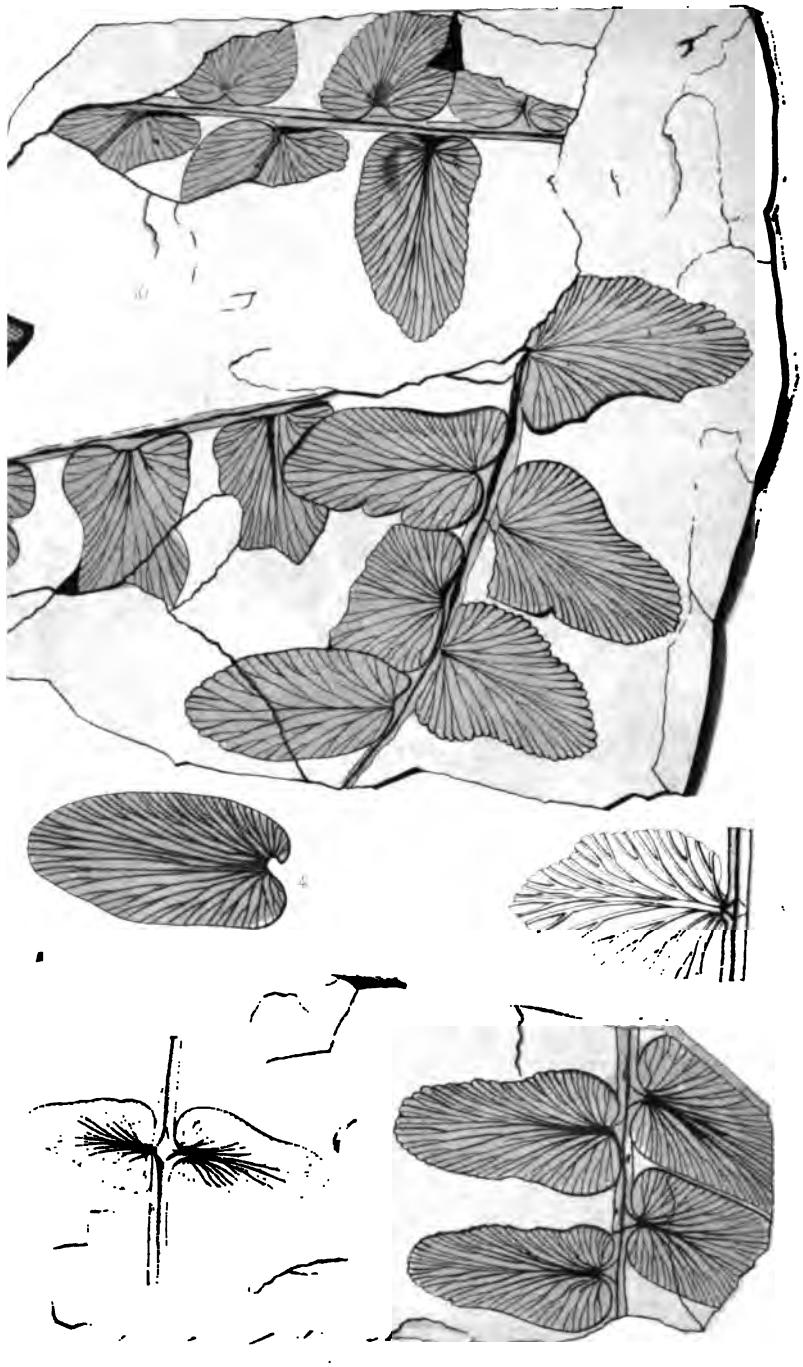

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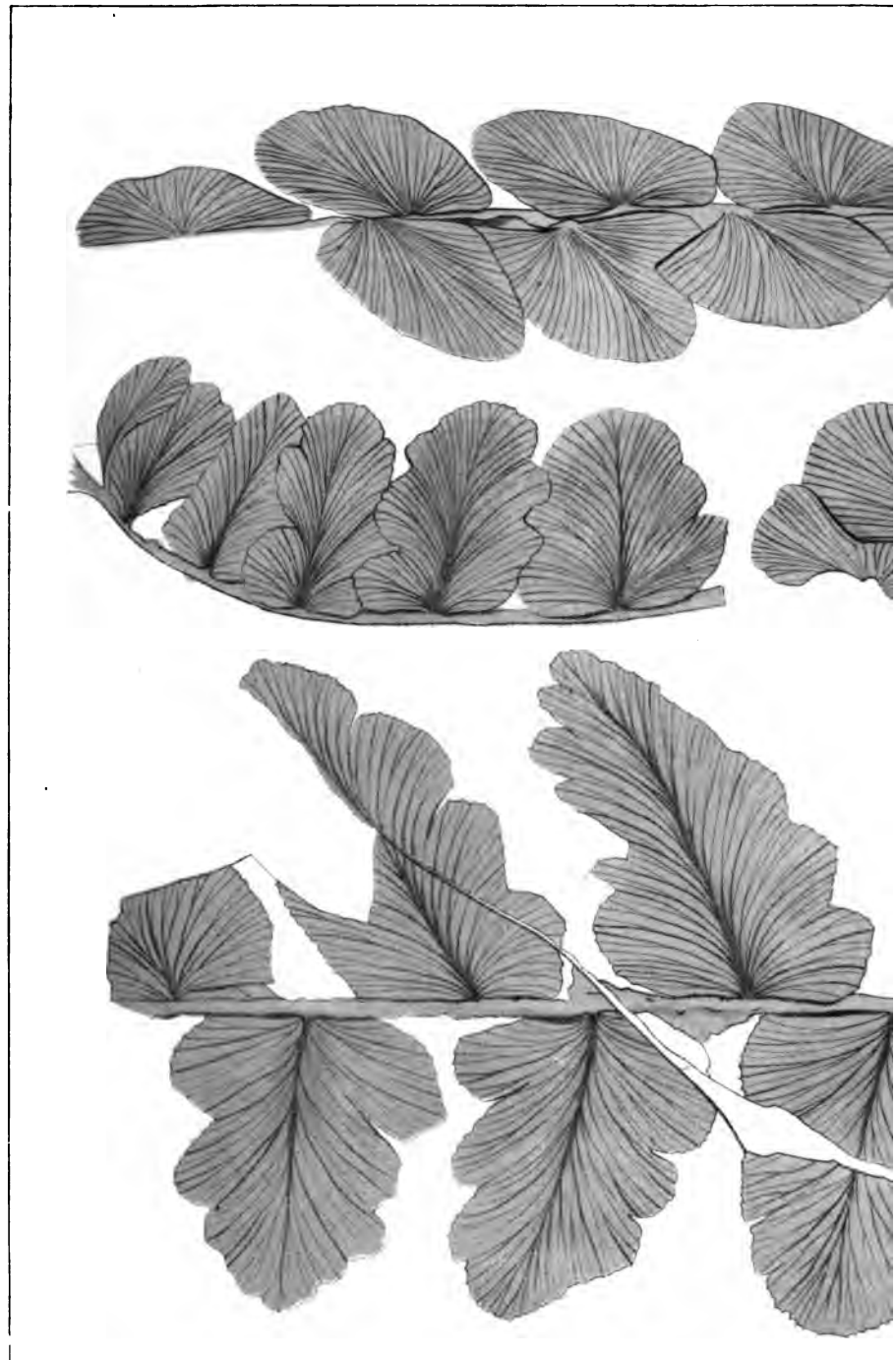

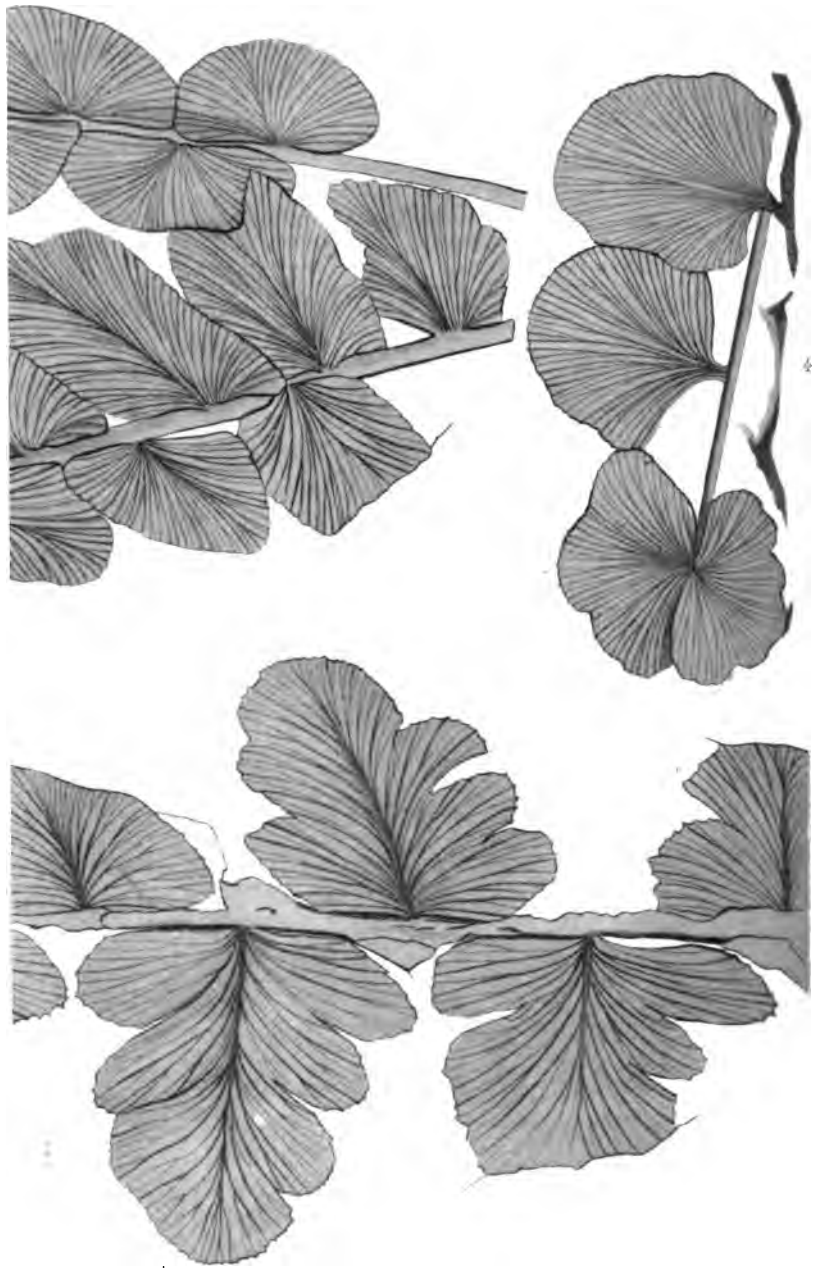

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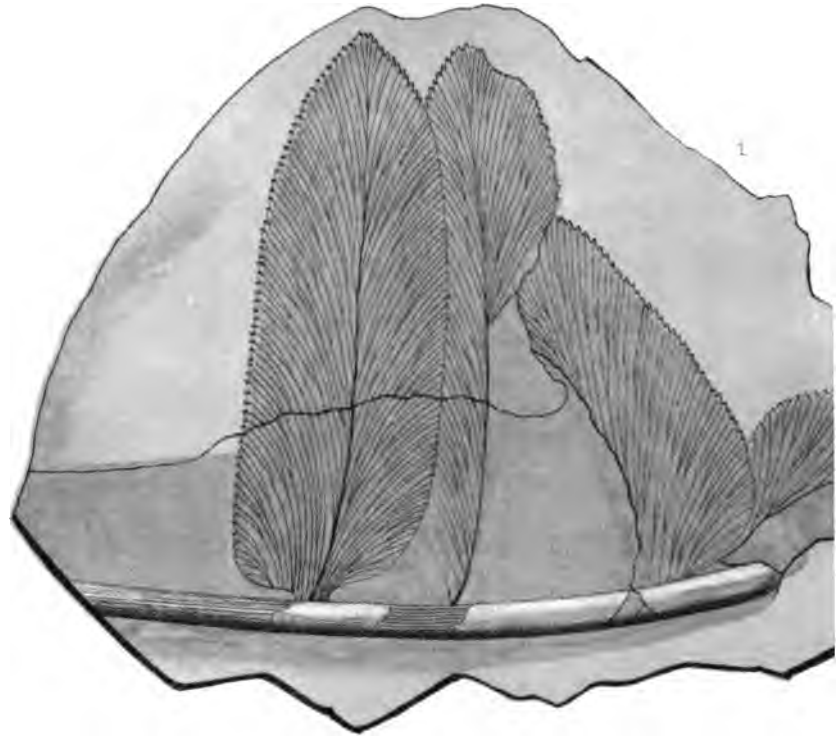

L. Lesquereux del

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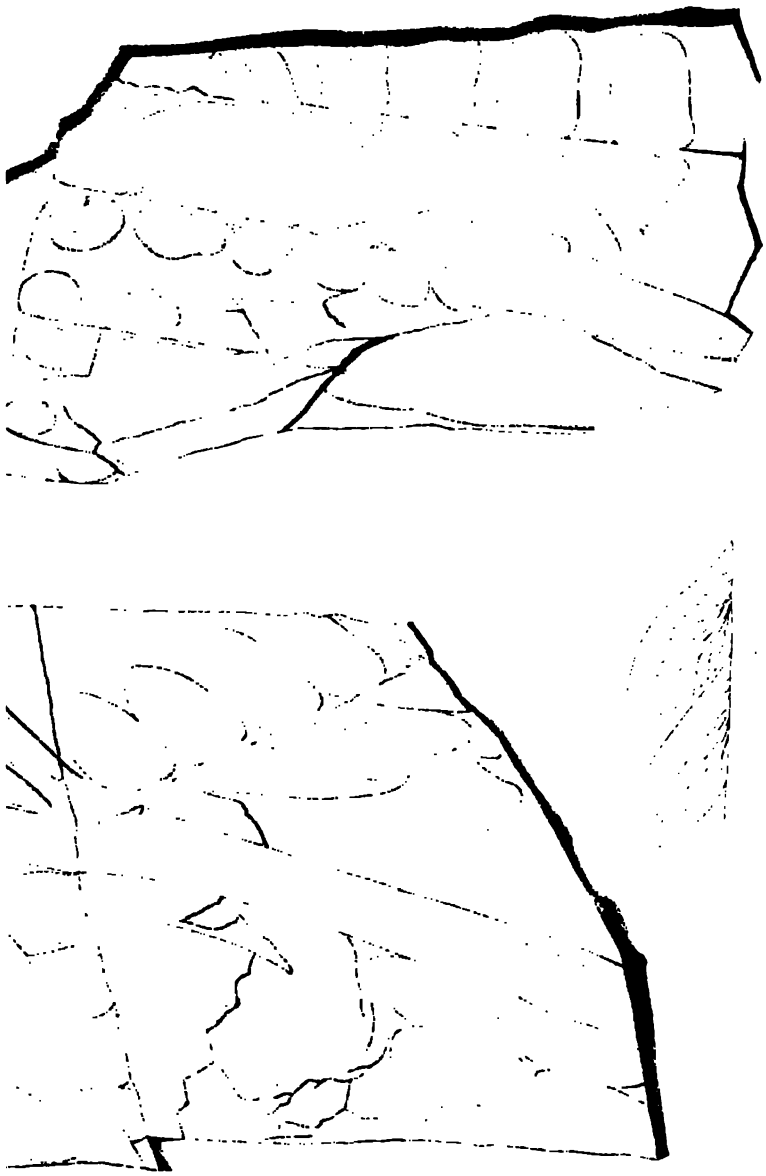

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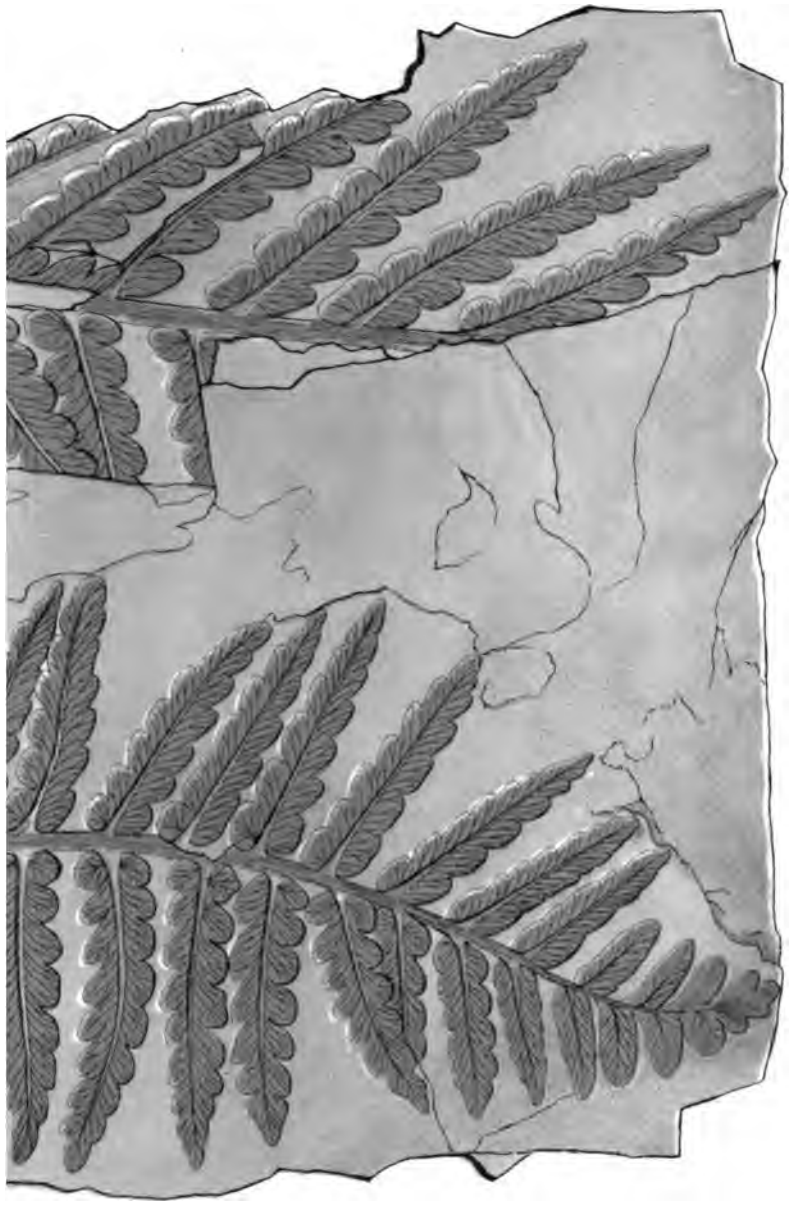

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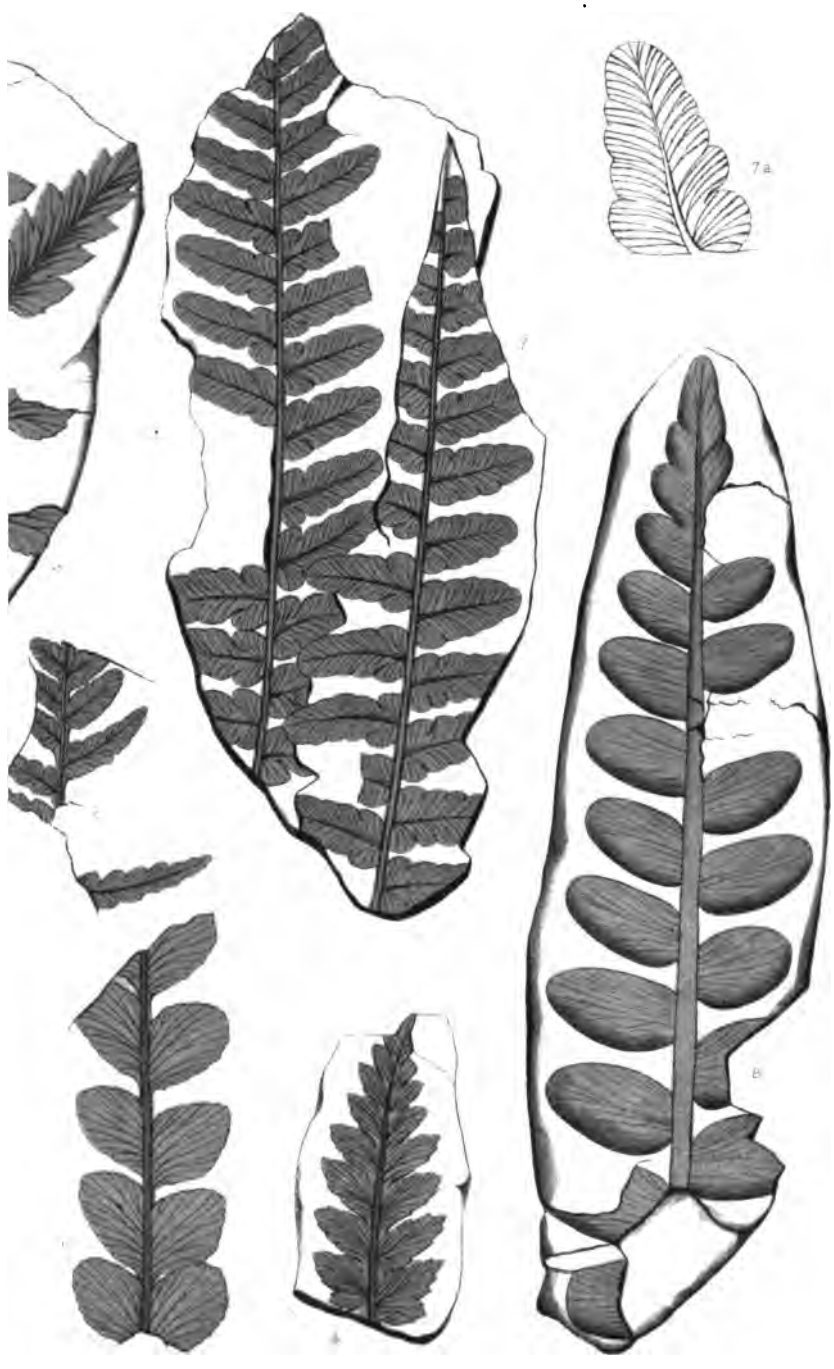

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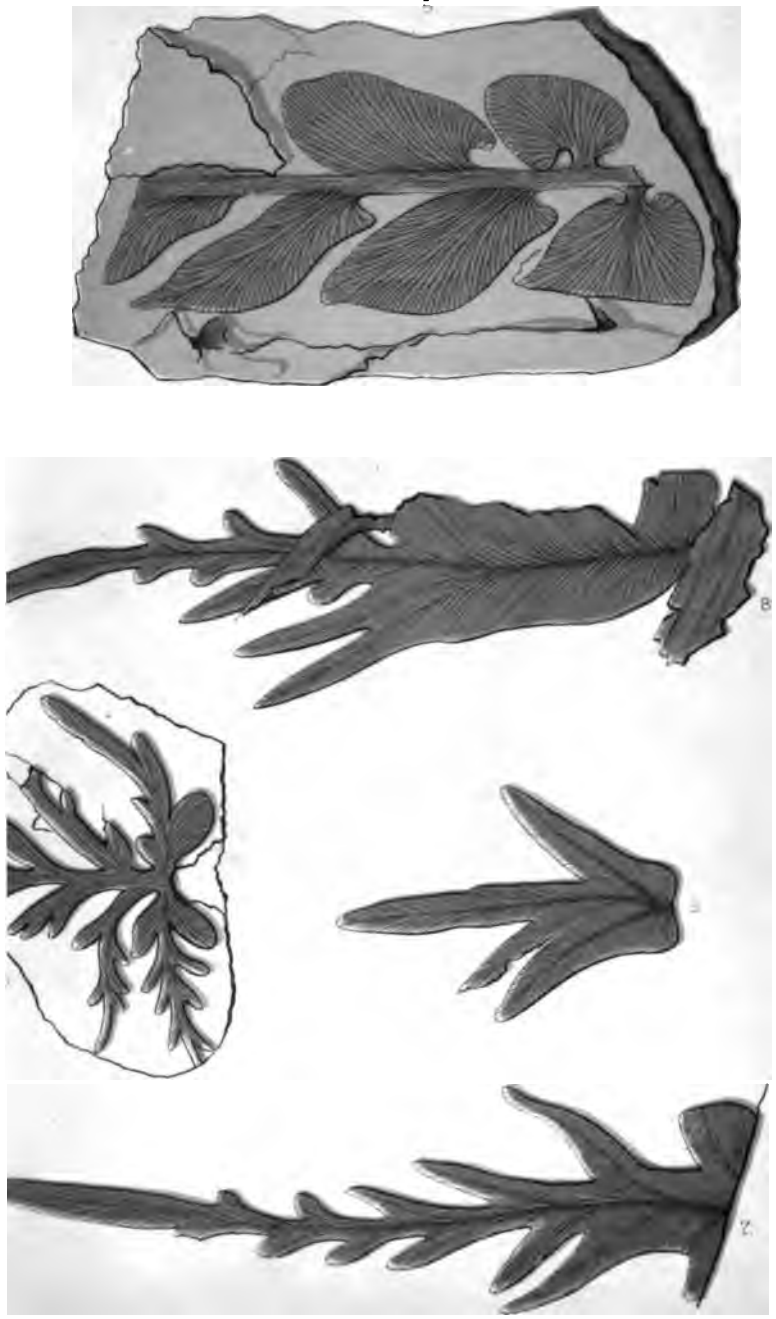

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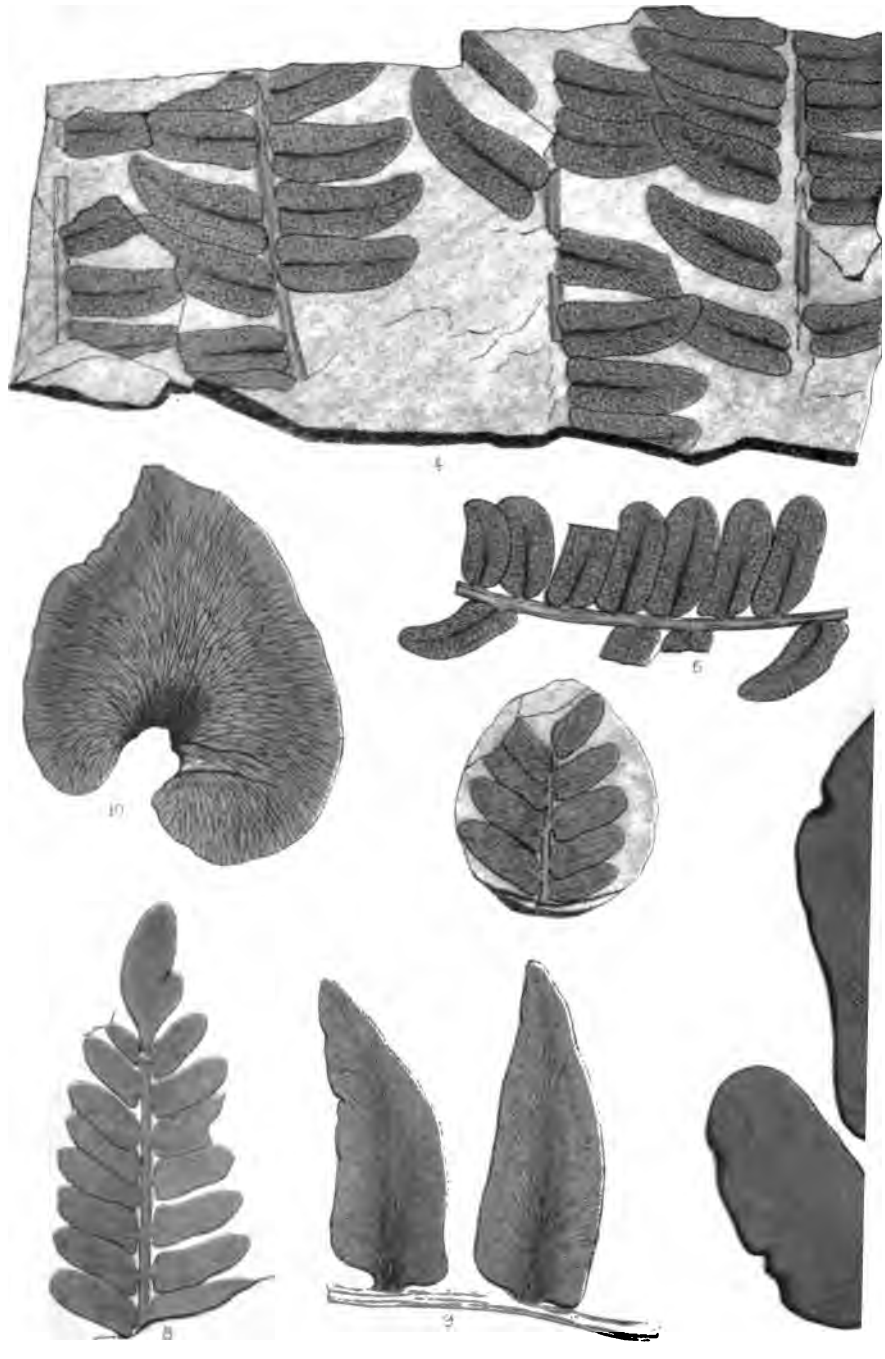

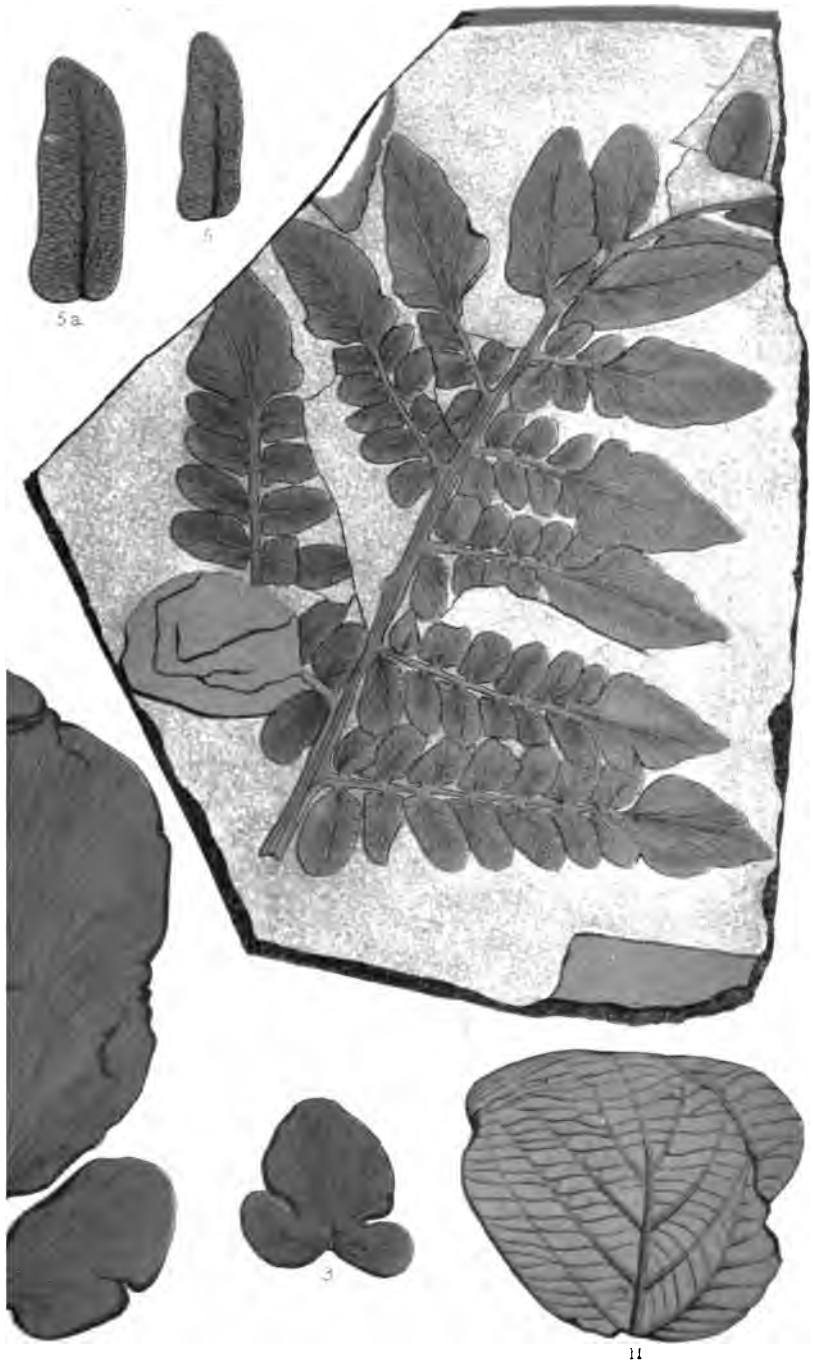
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Second Geol.Sur.Pennsylvania I. Lesquereux 1878

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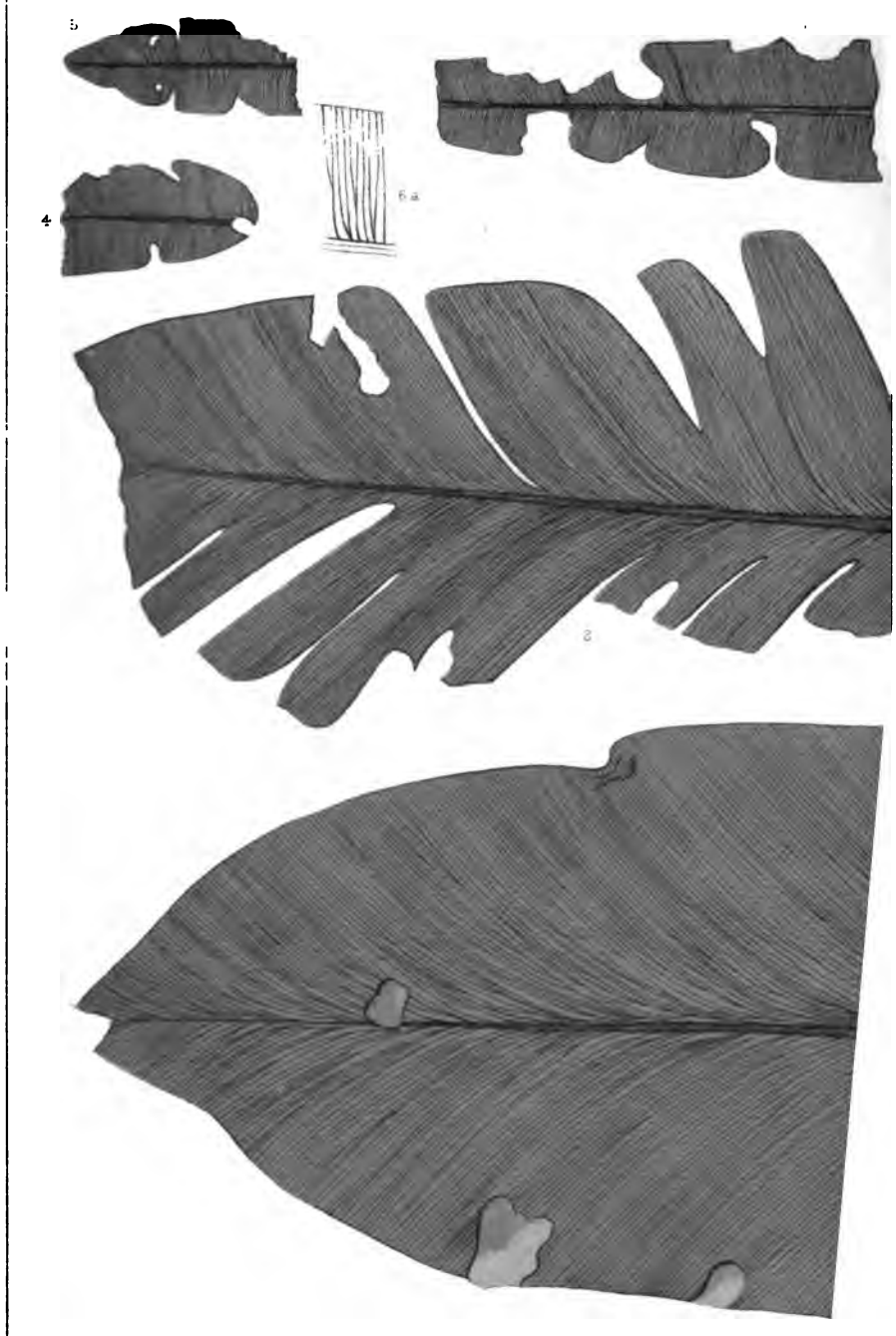

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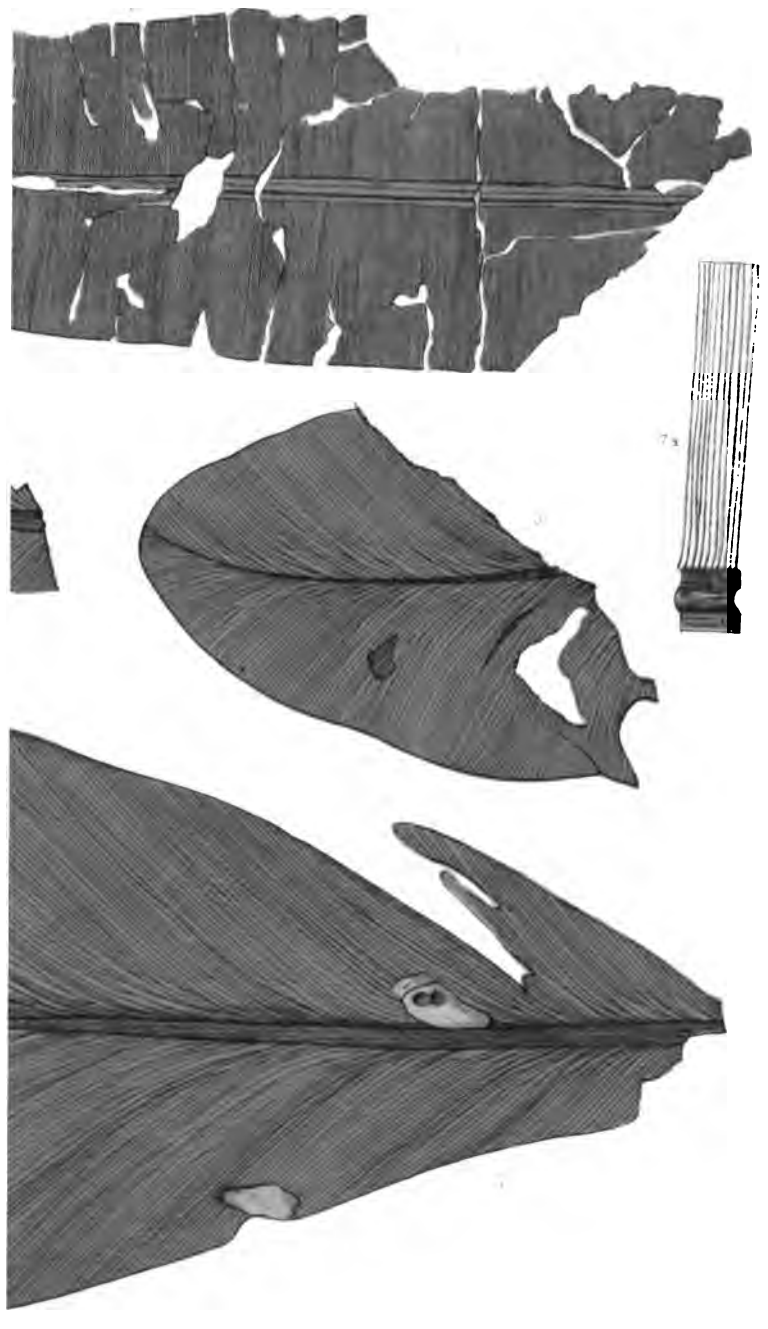

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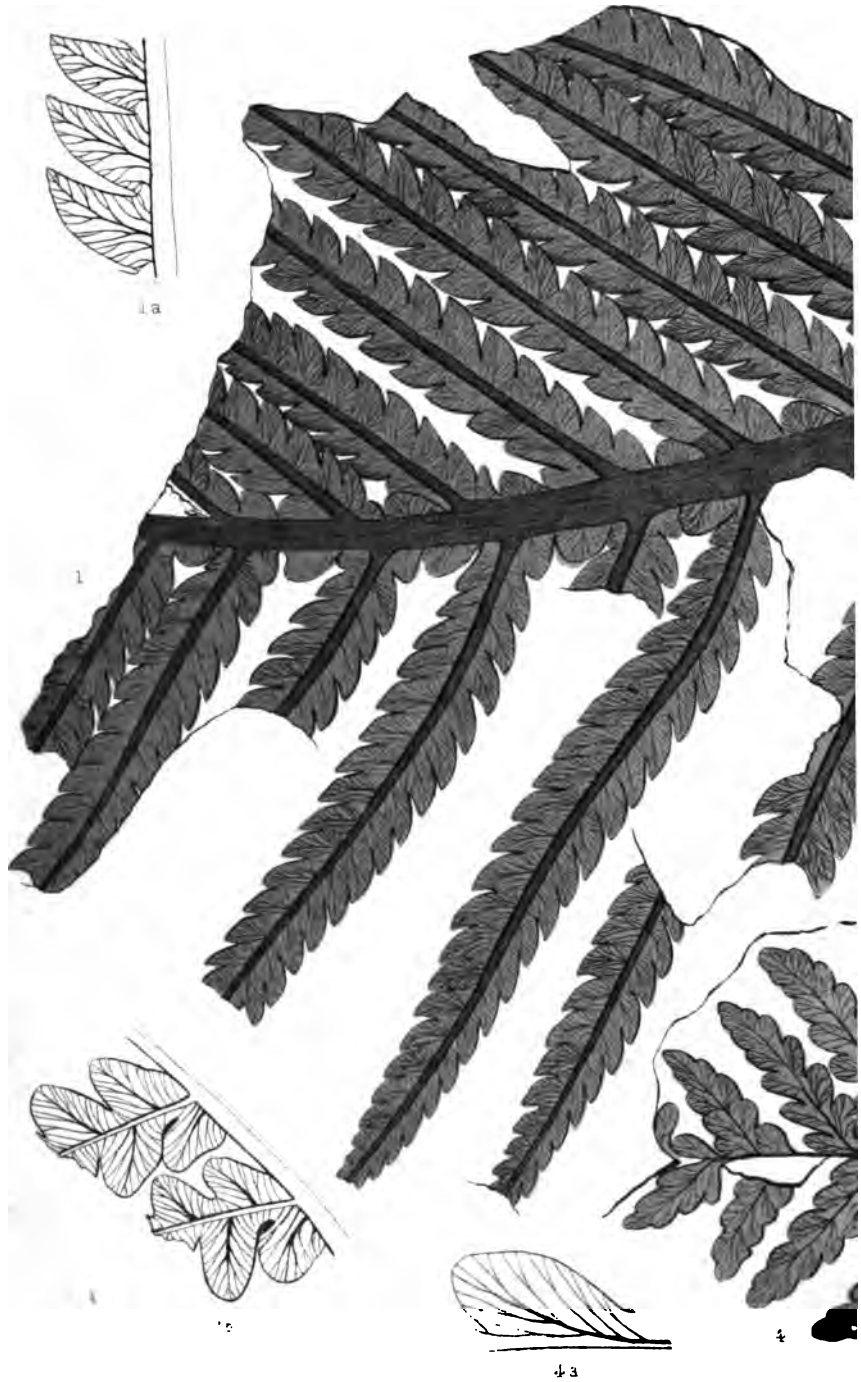

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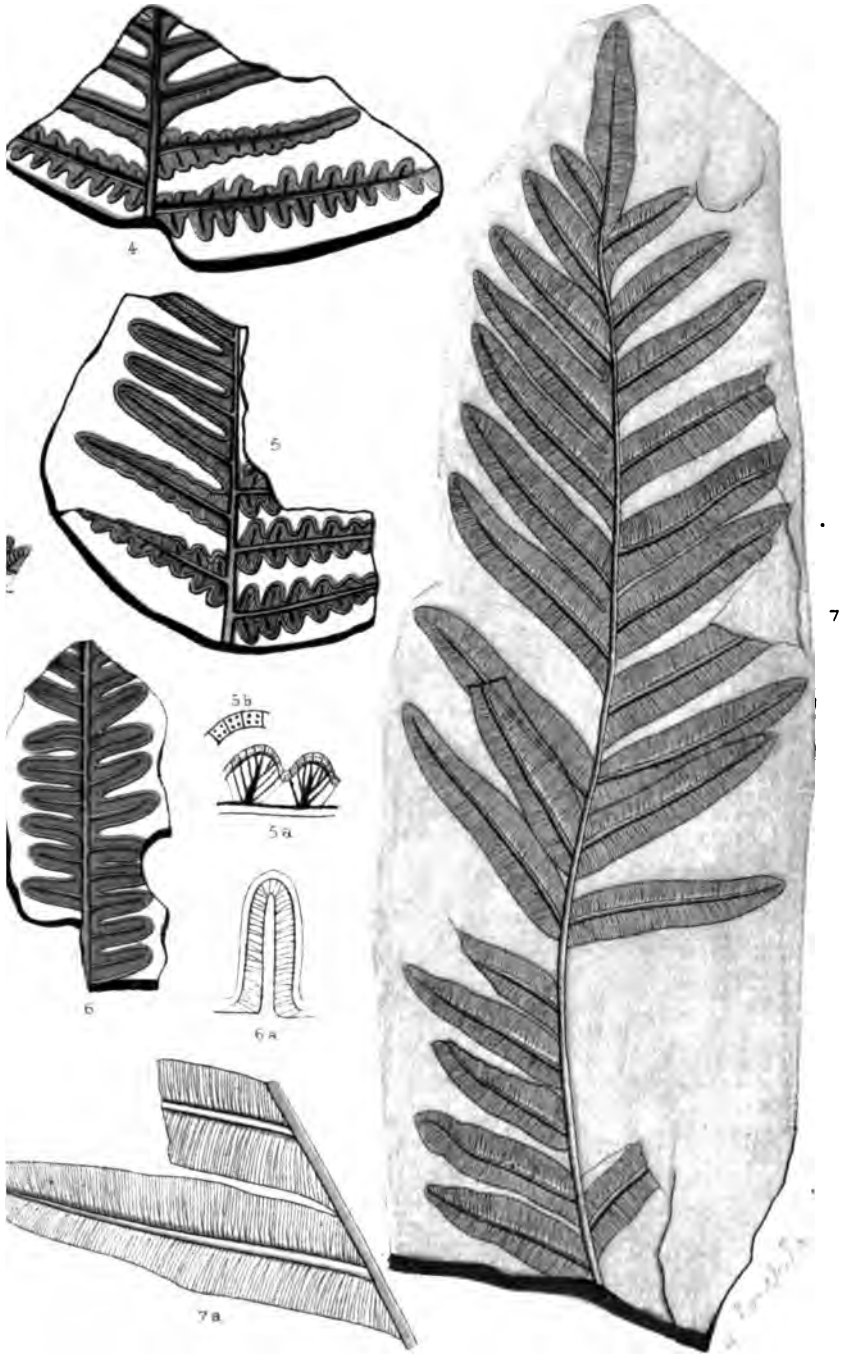
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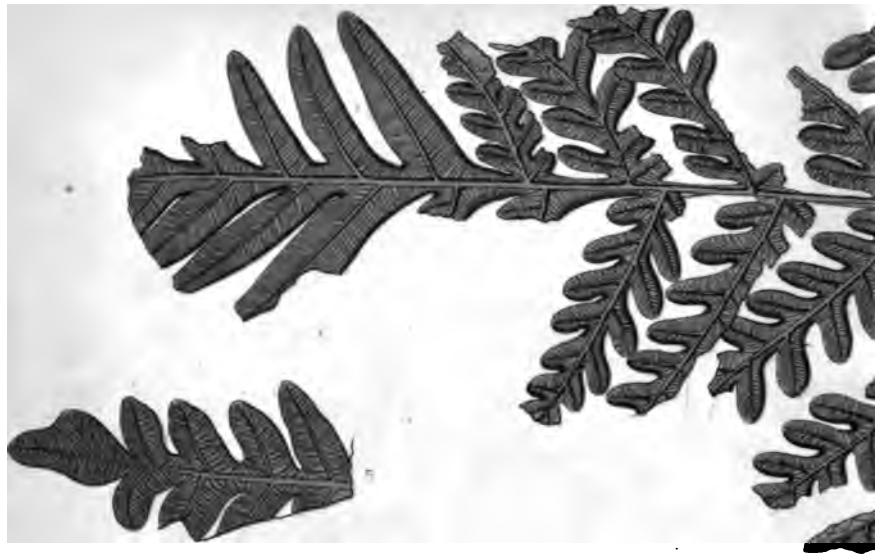

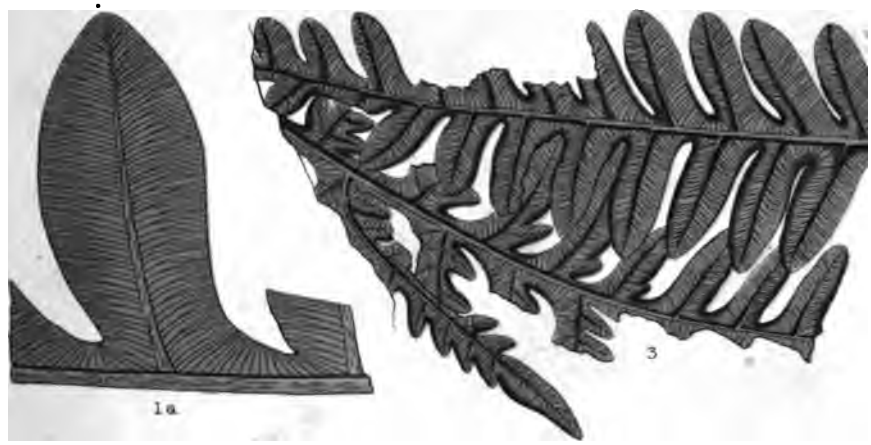

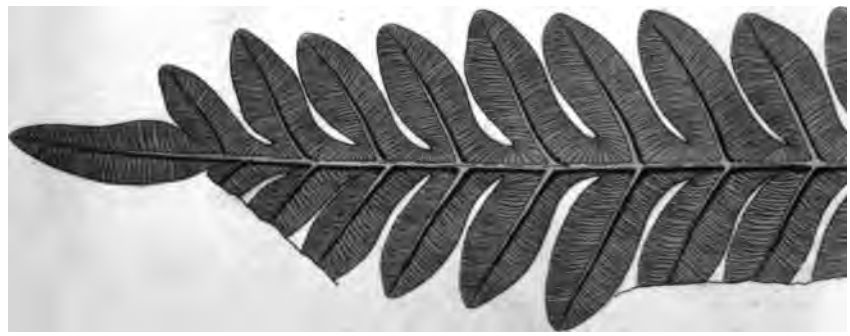

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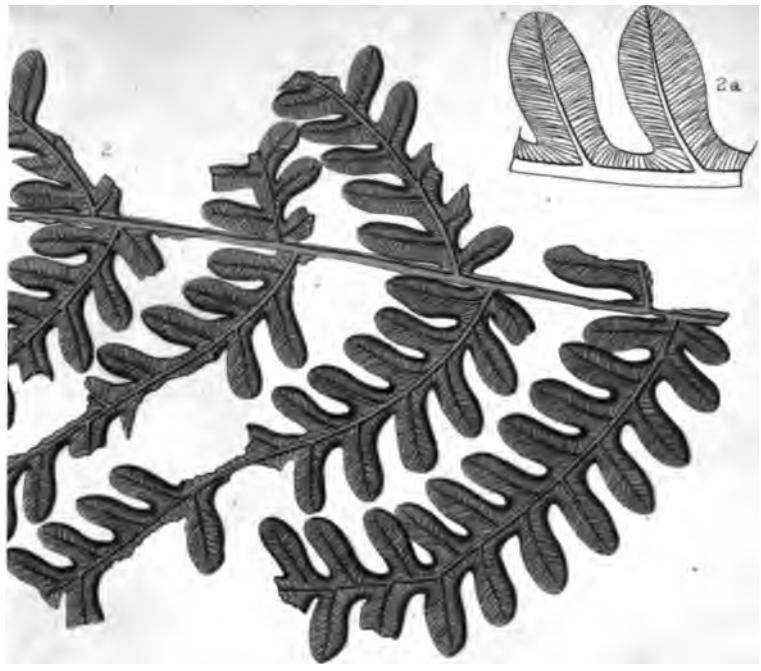

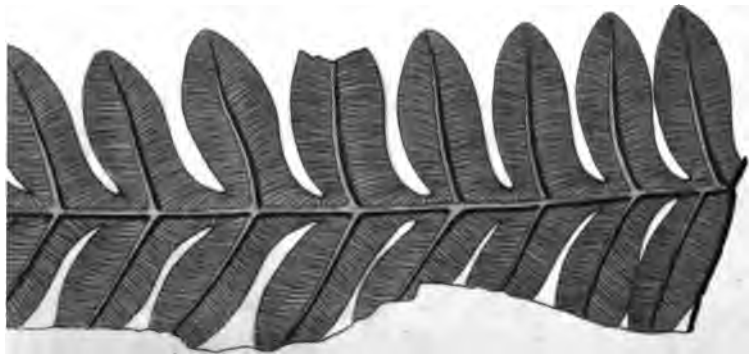

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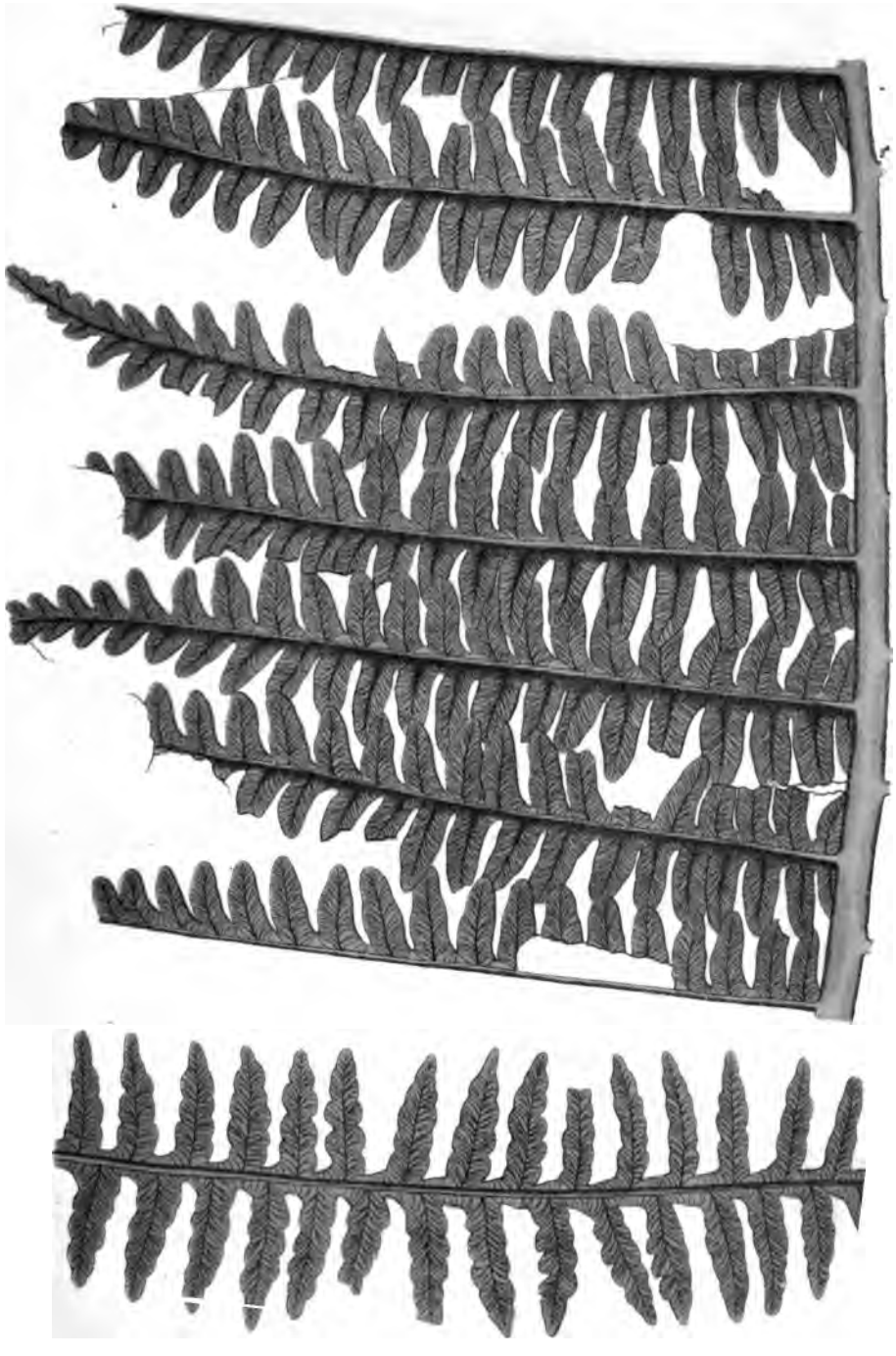

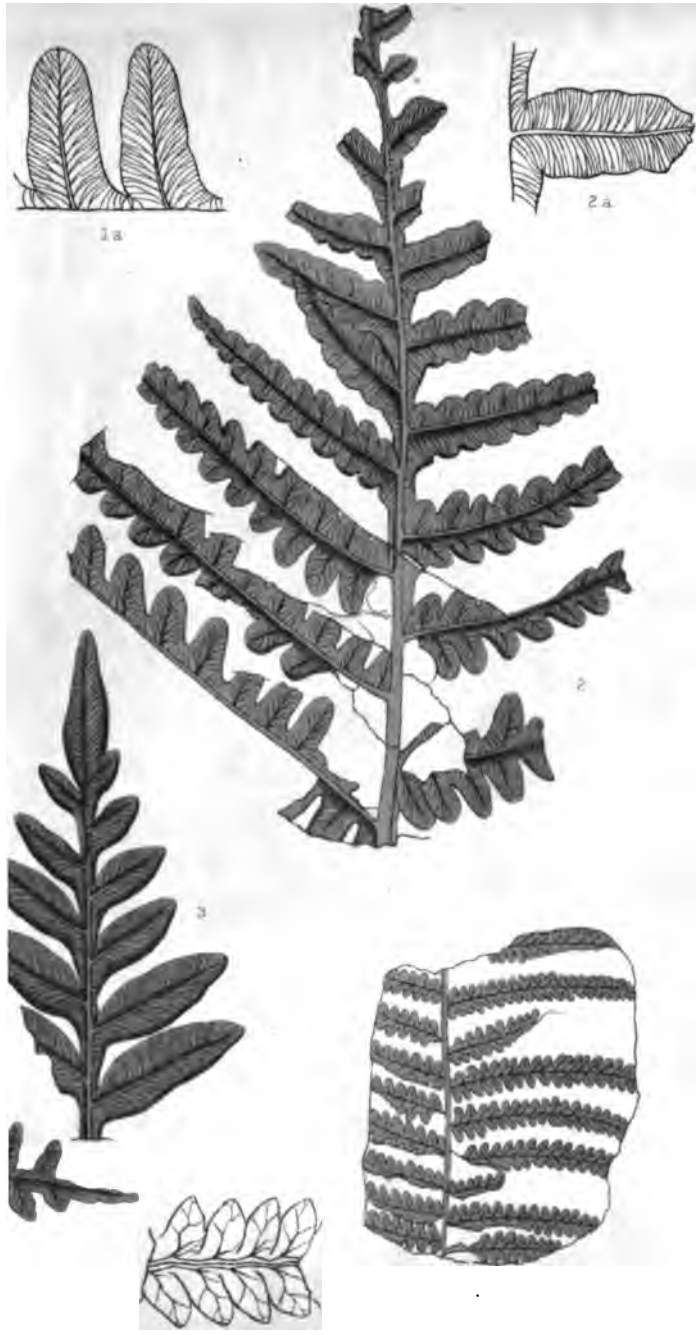

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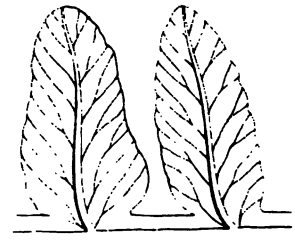

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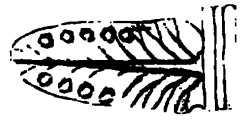

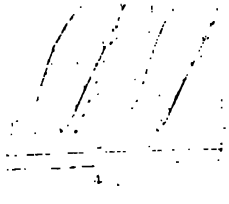

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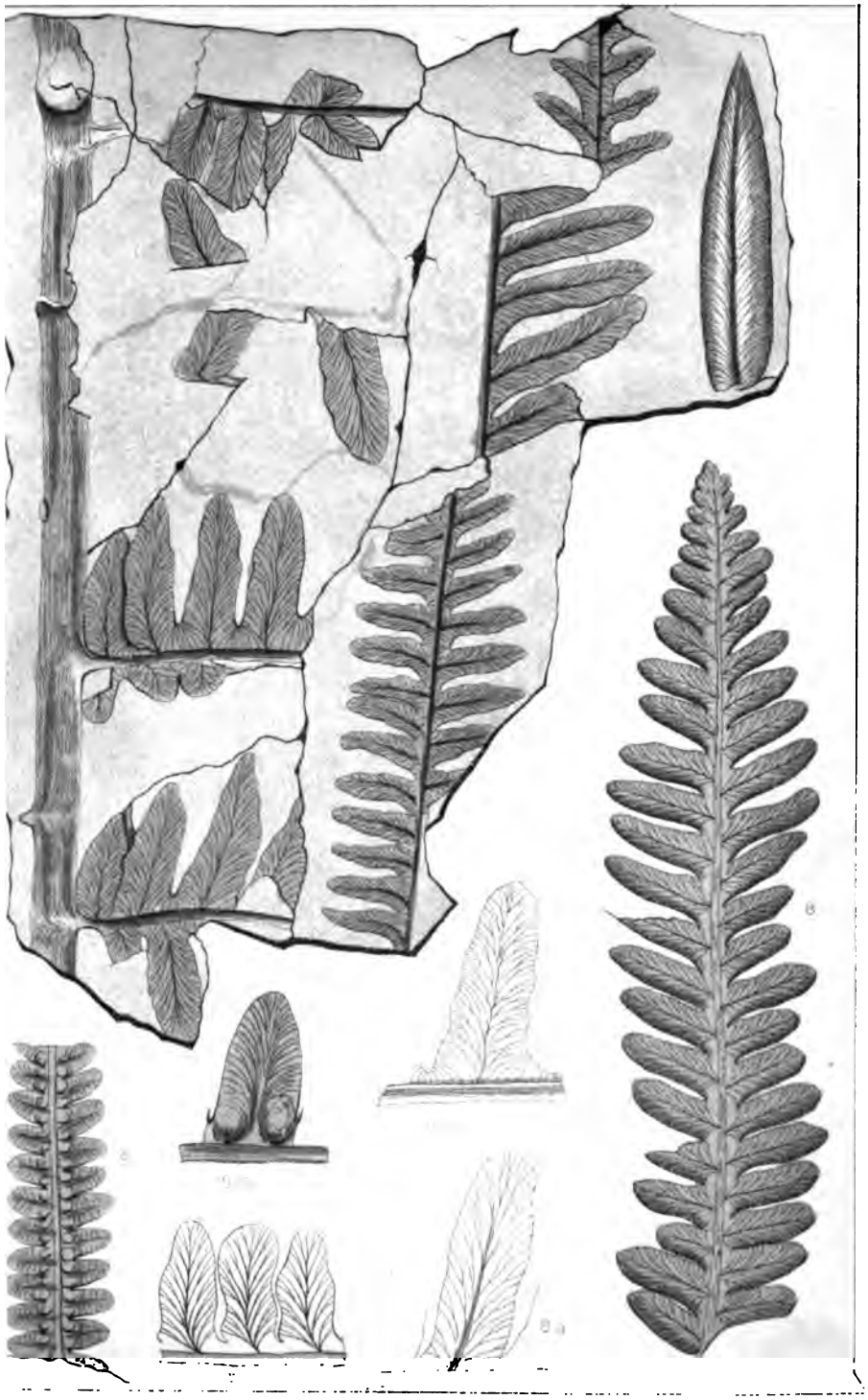

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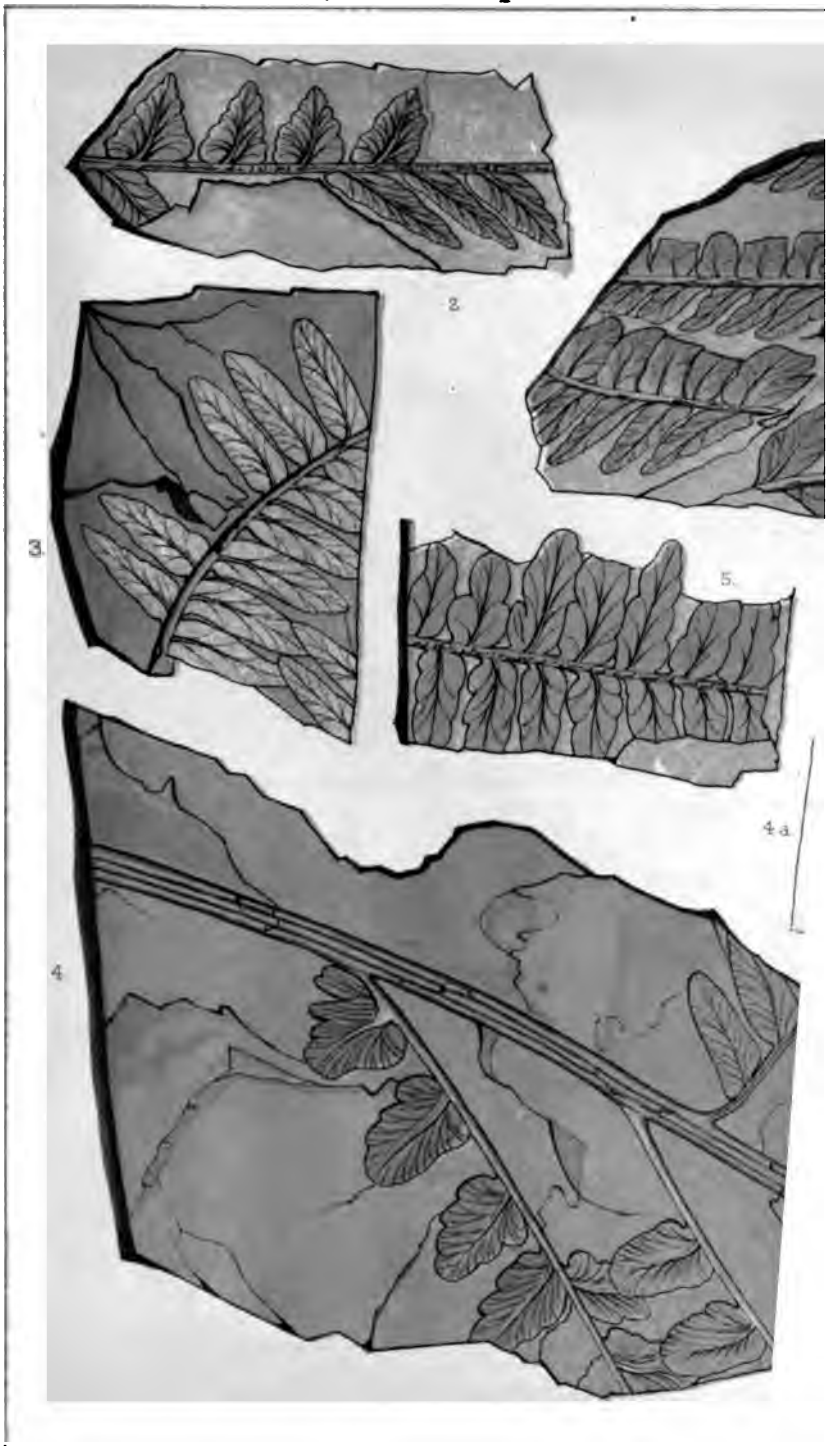

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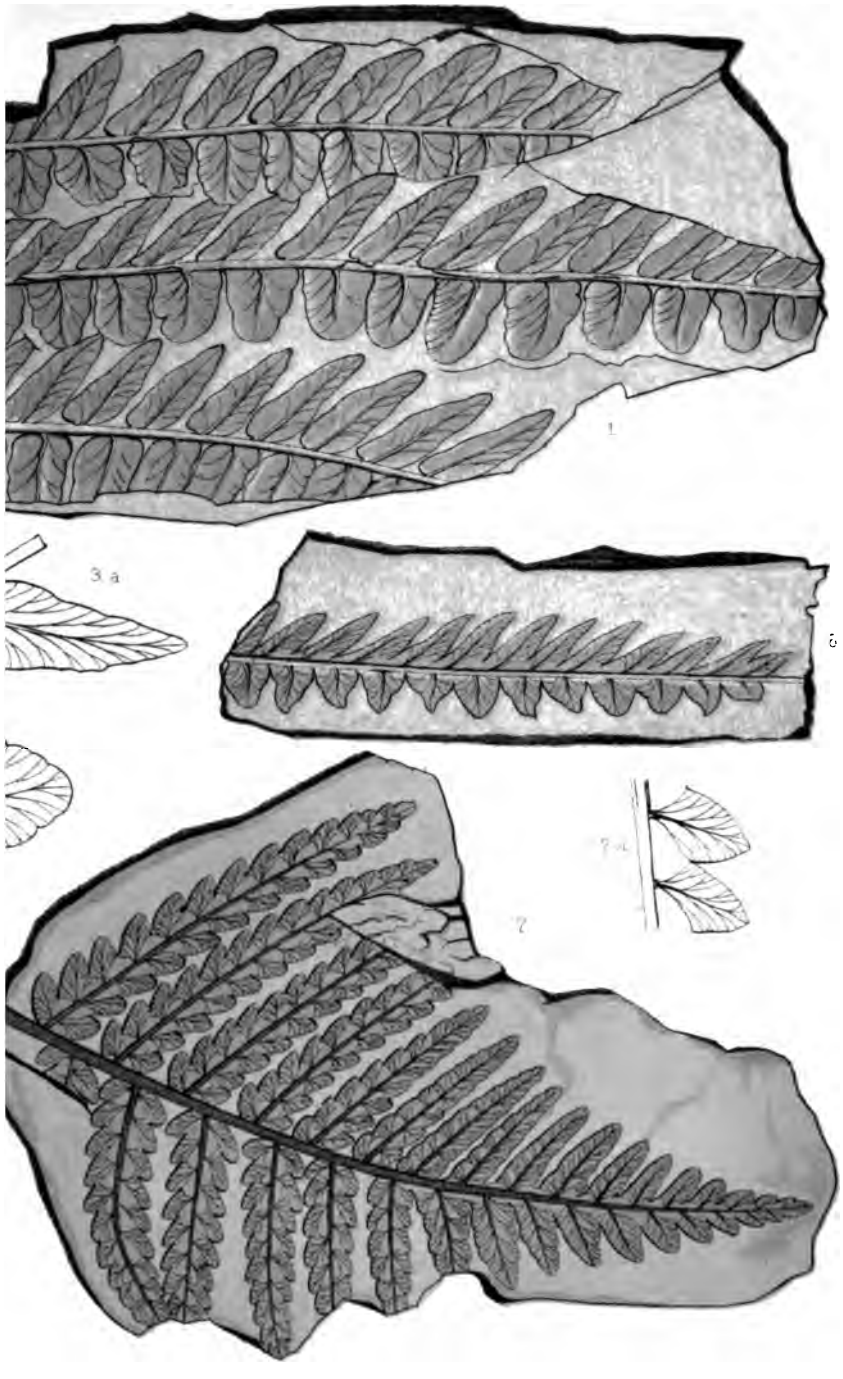

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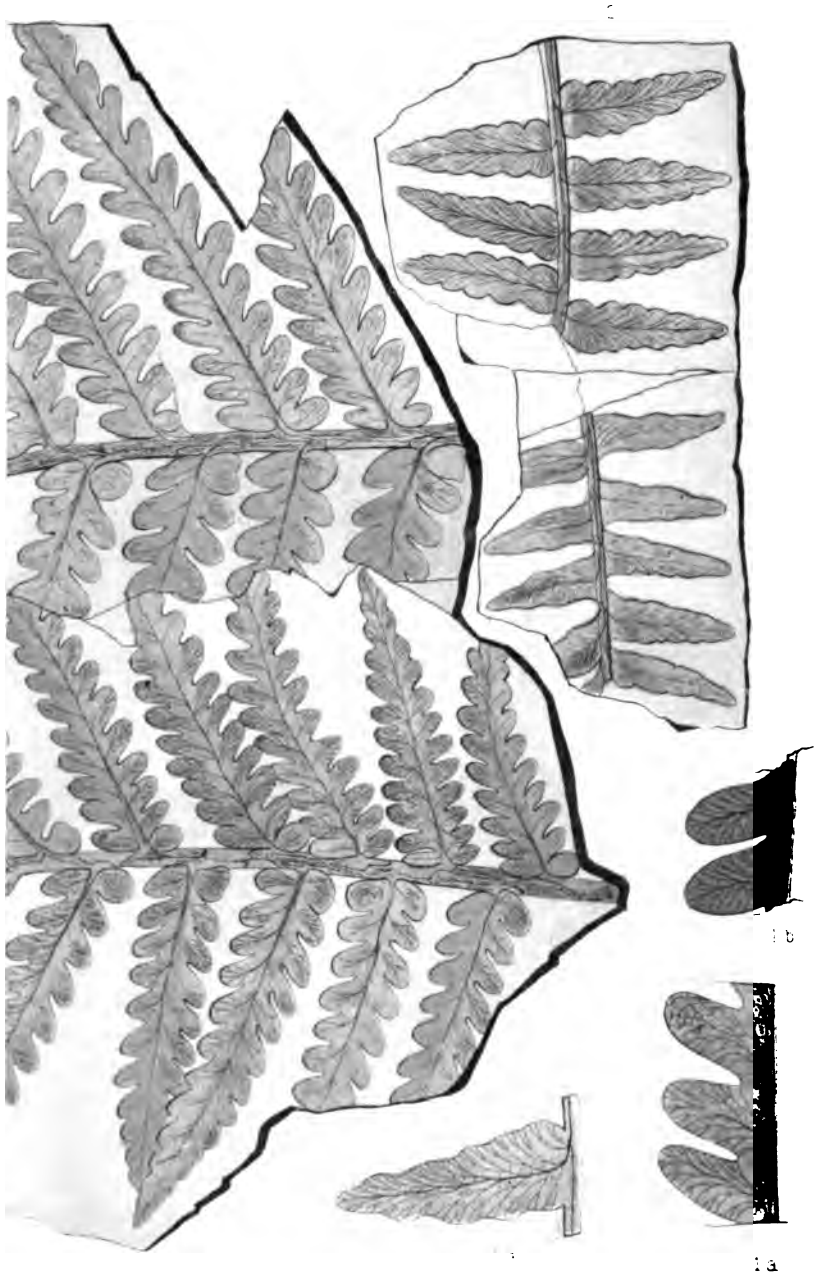

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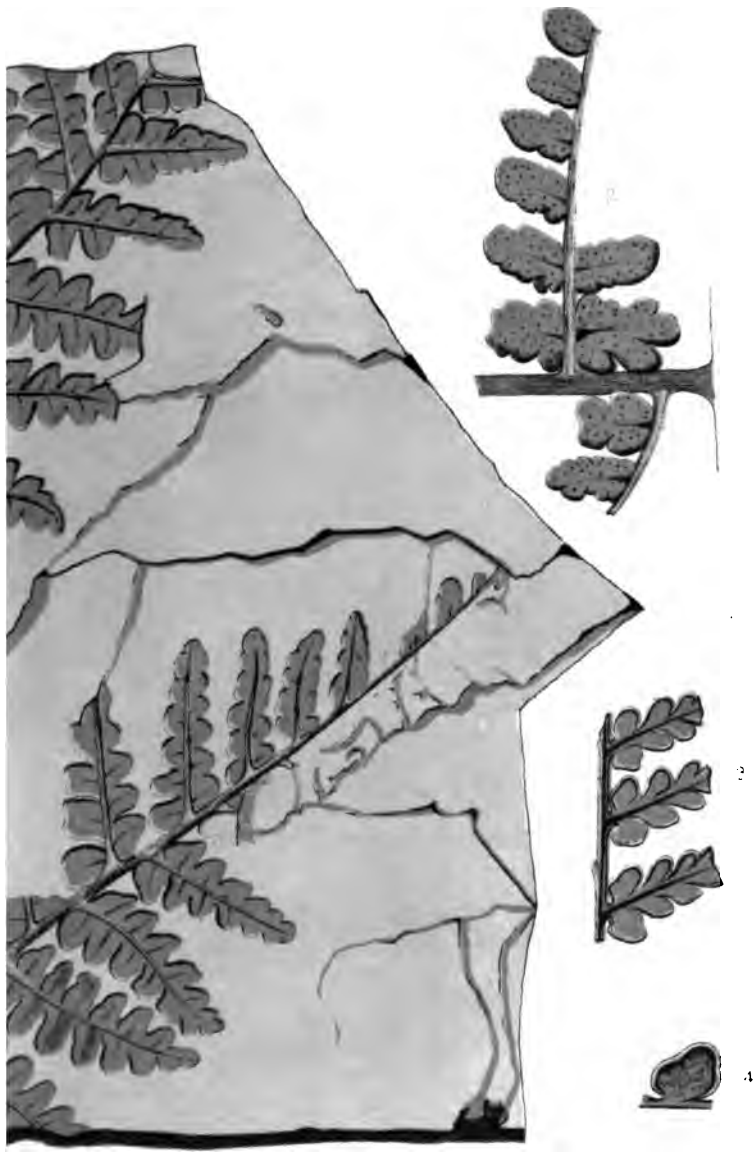

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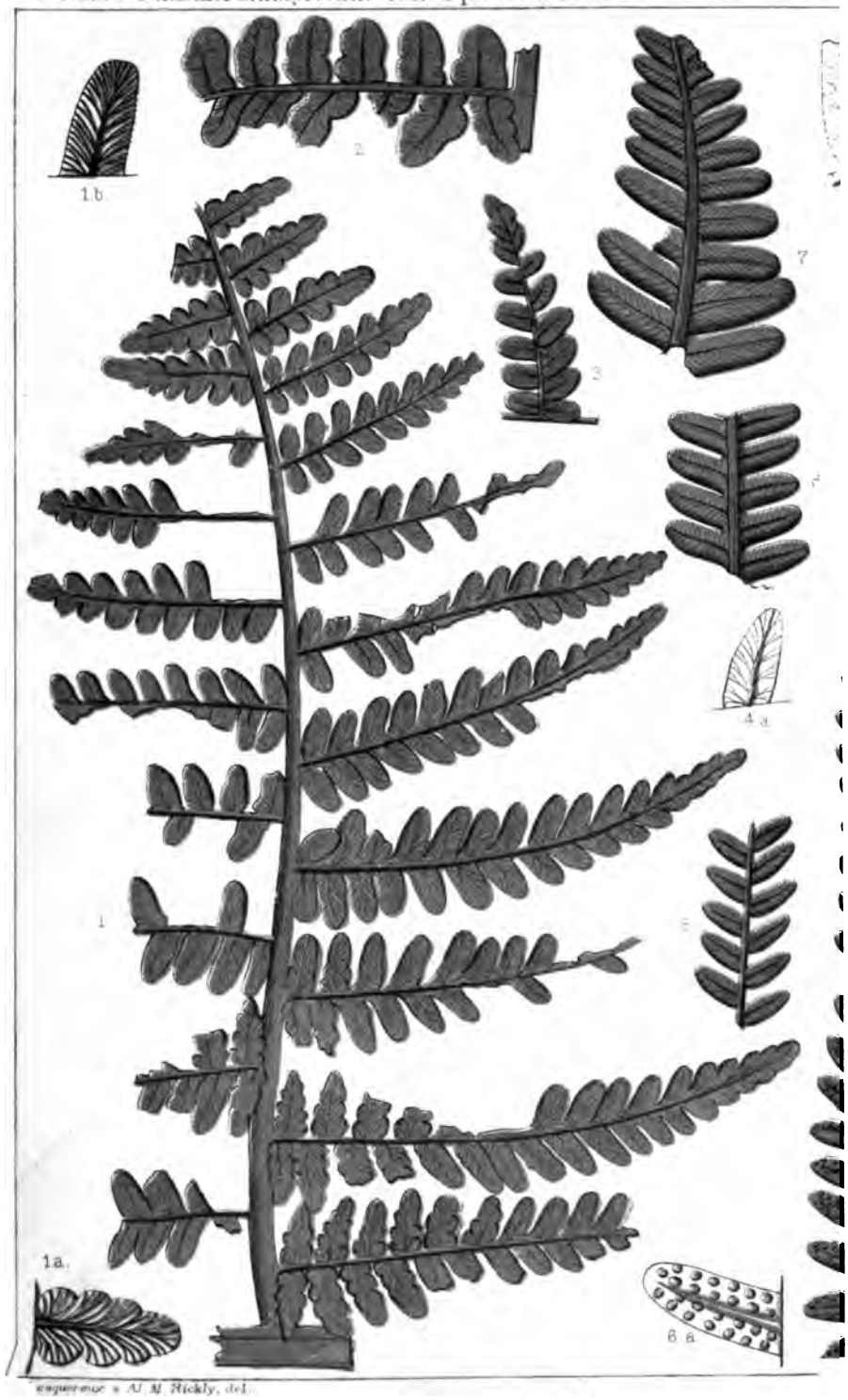

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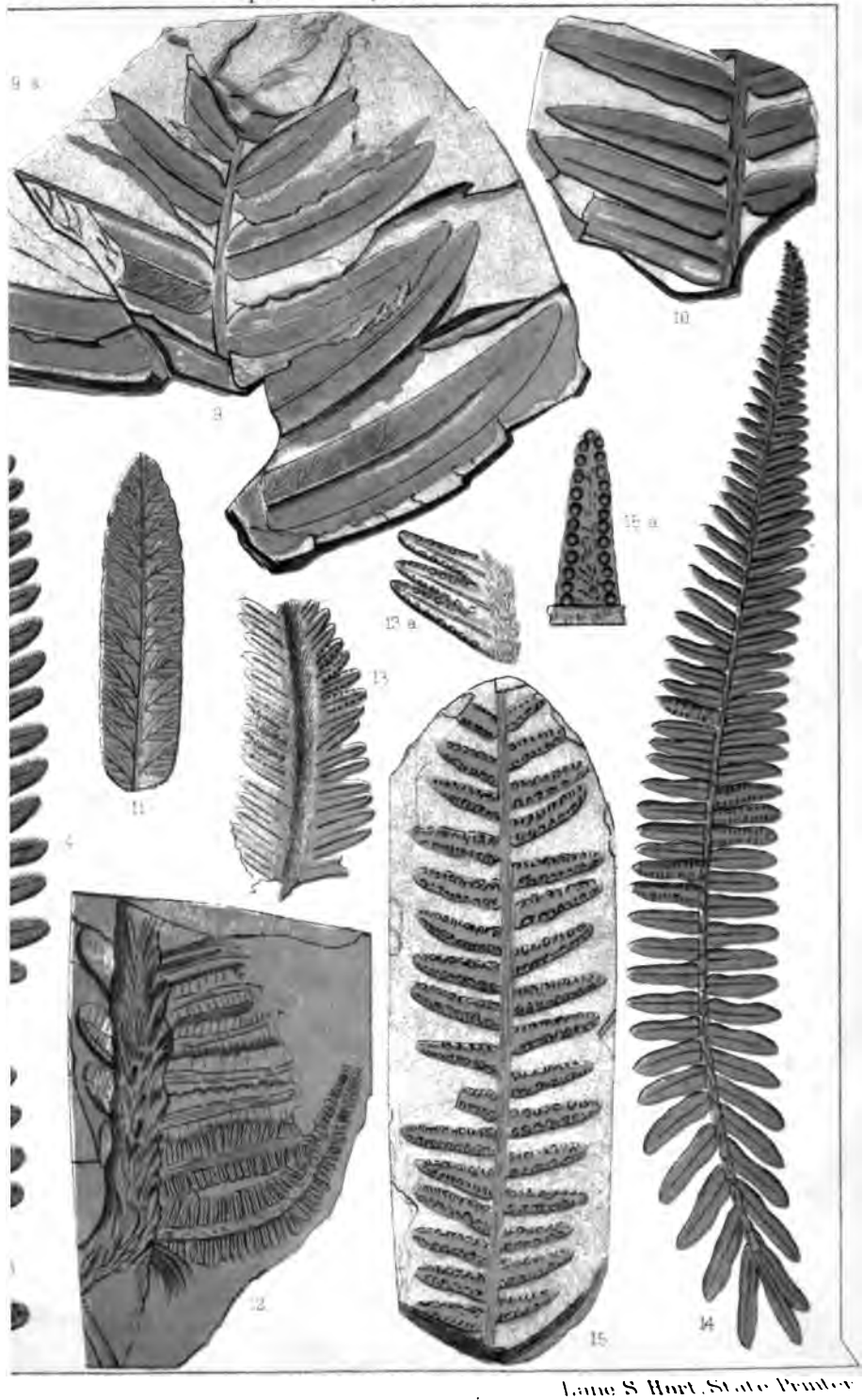

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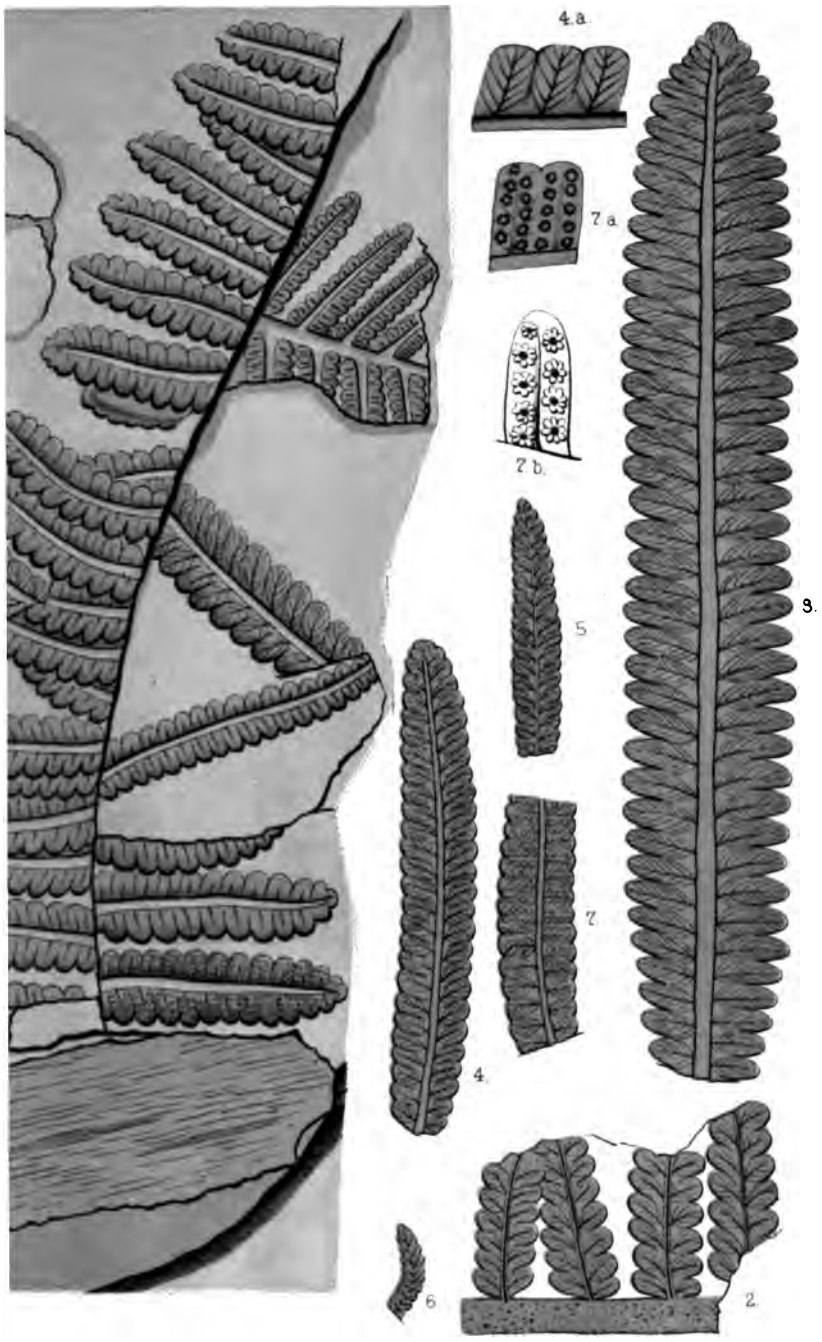

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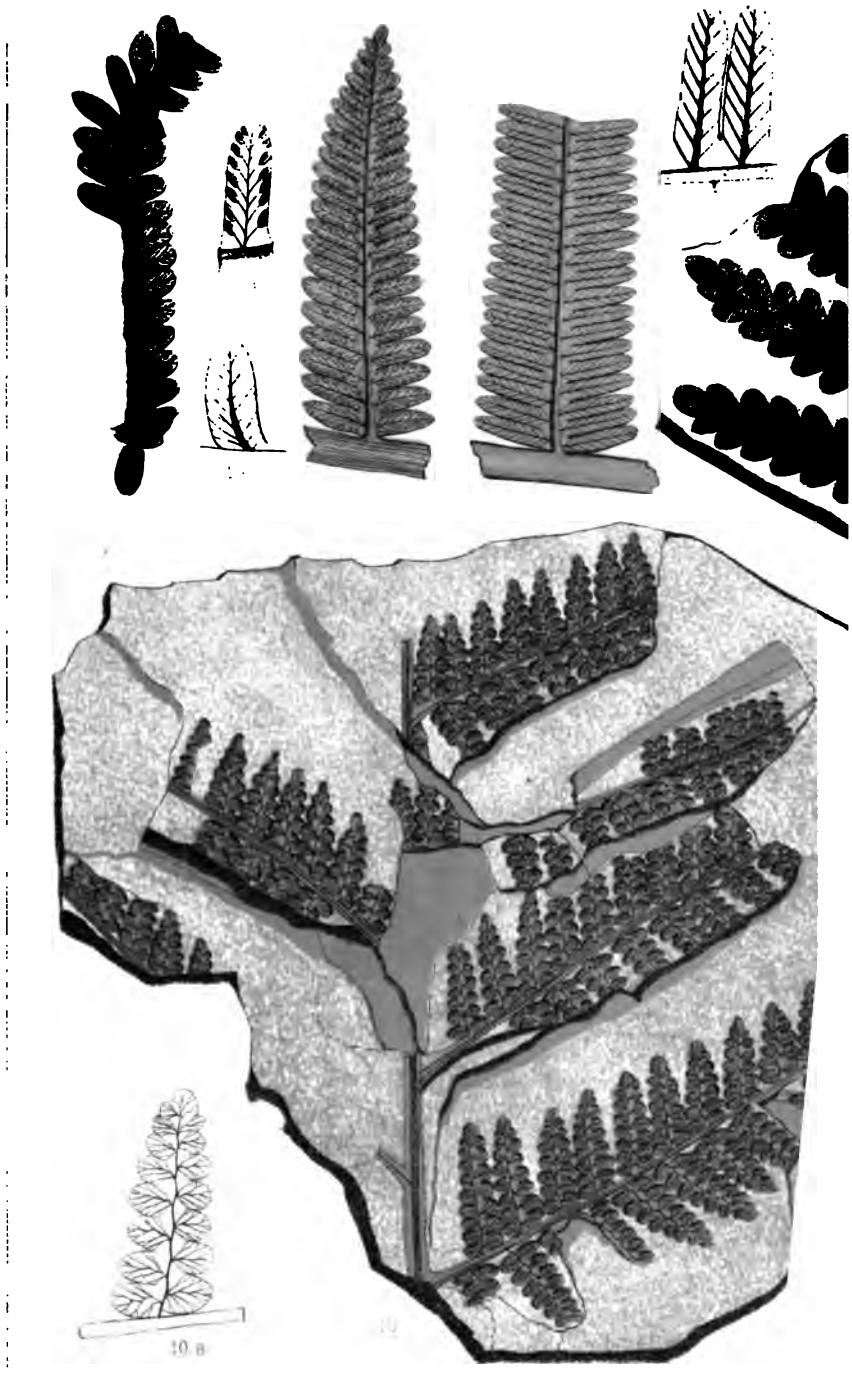
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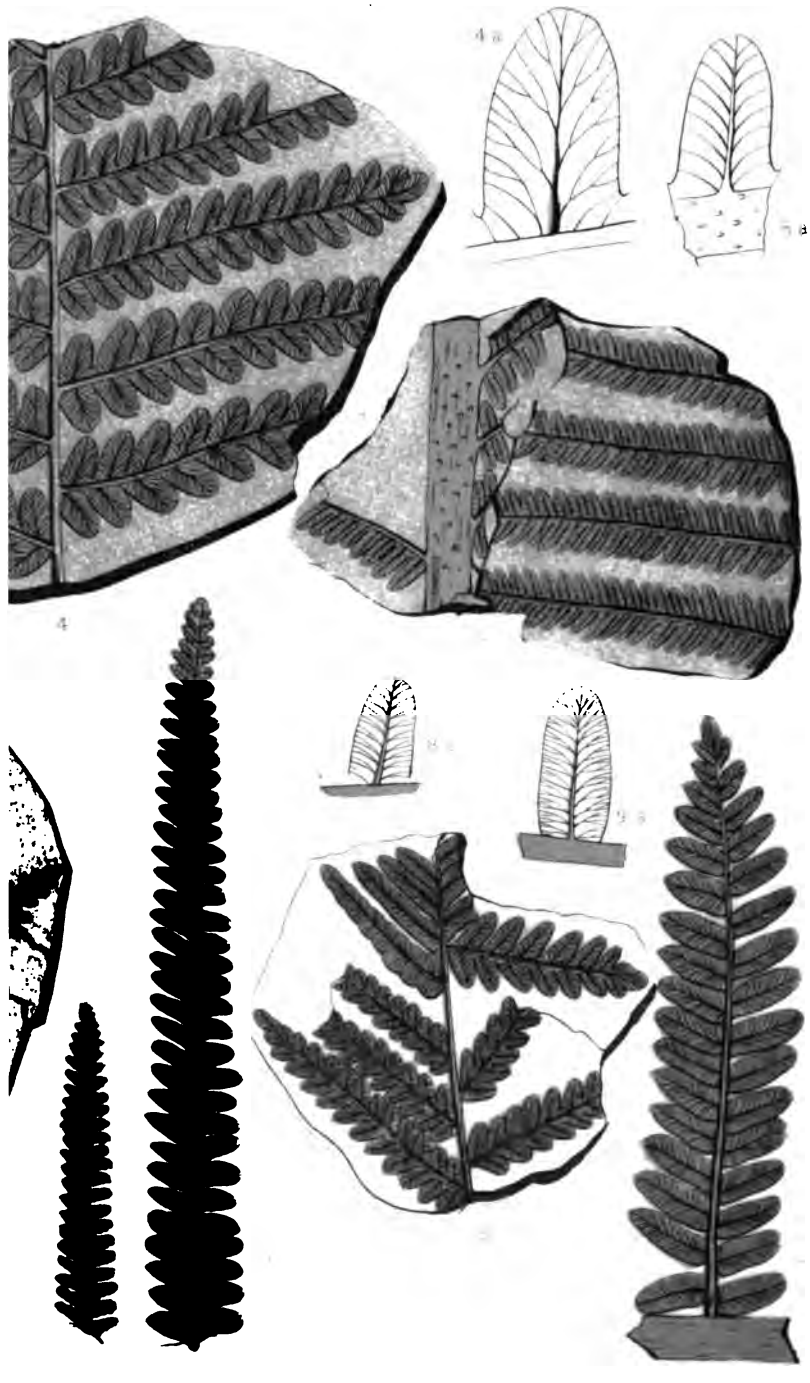

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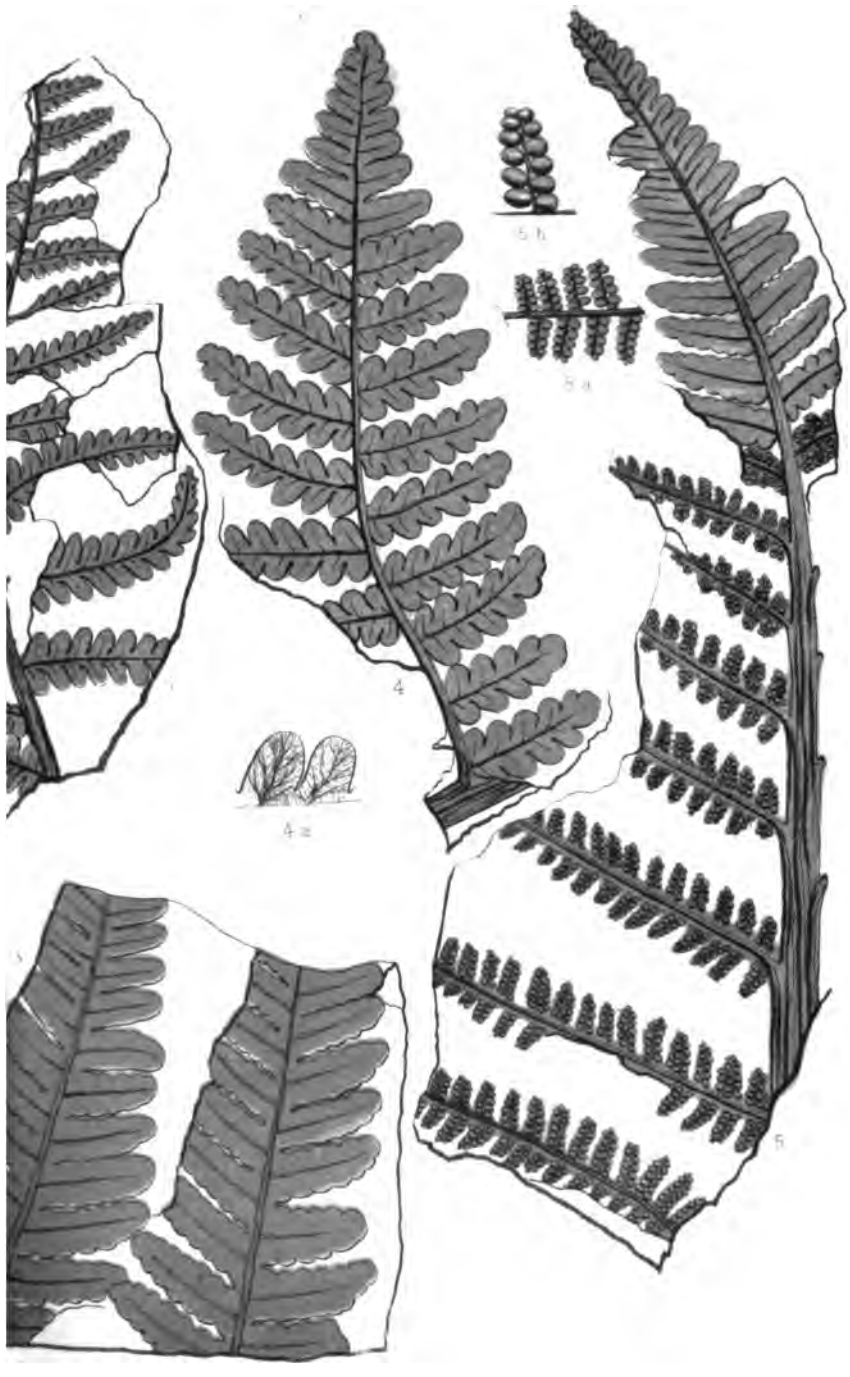

Lane S. Hart, State Printer.

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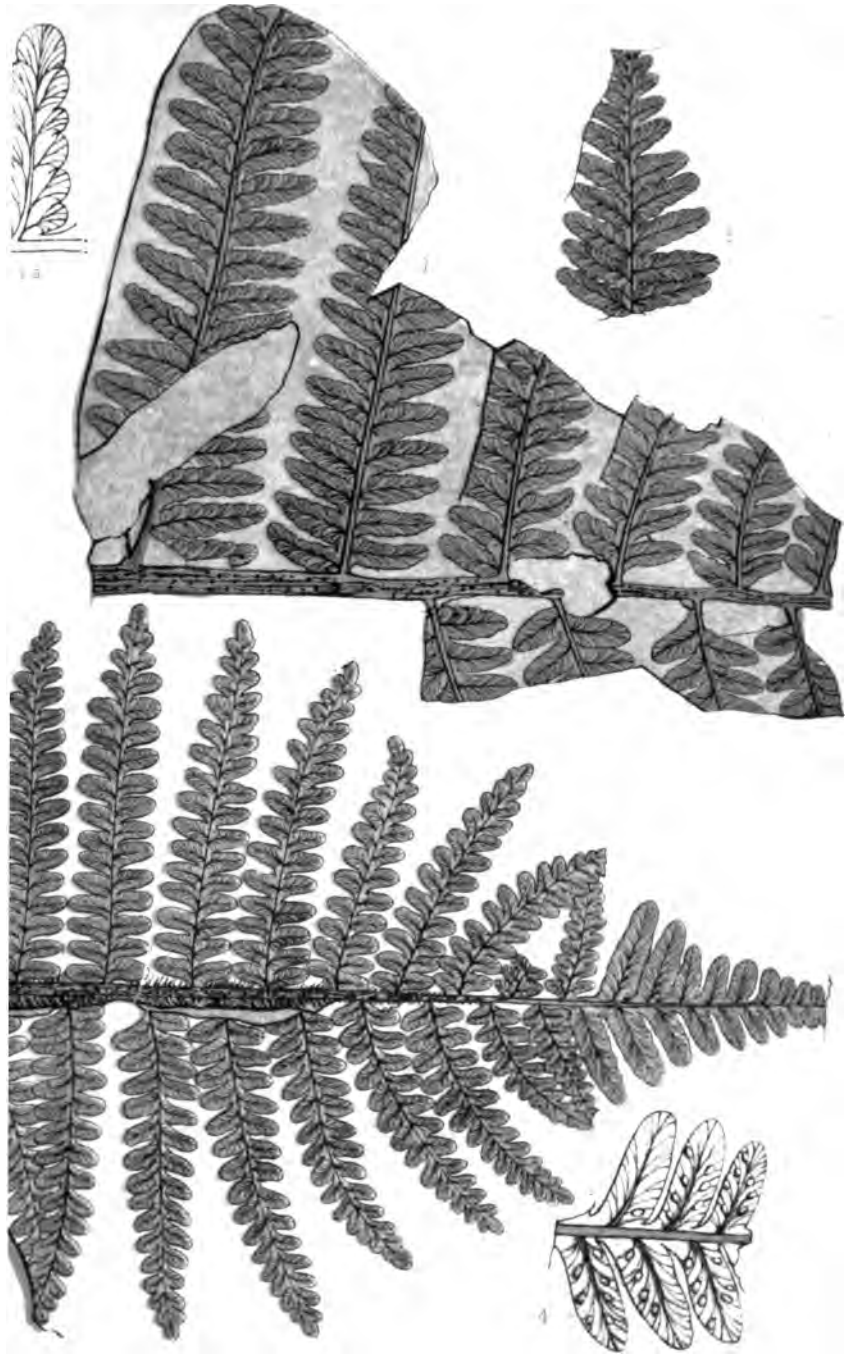

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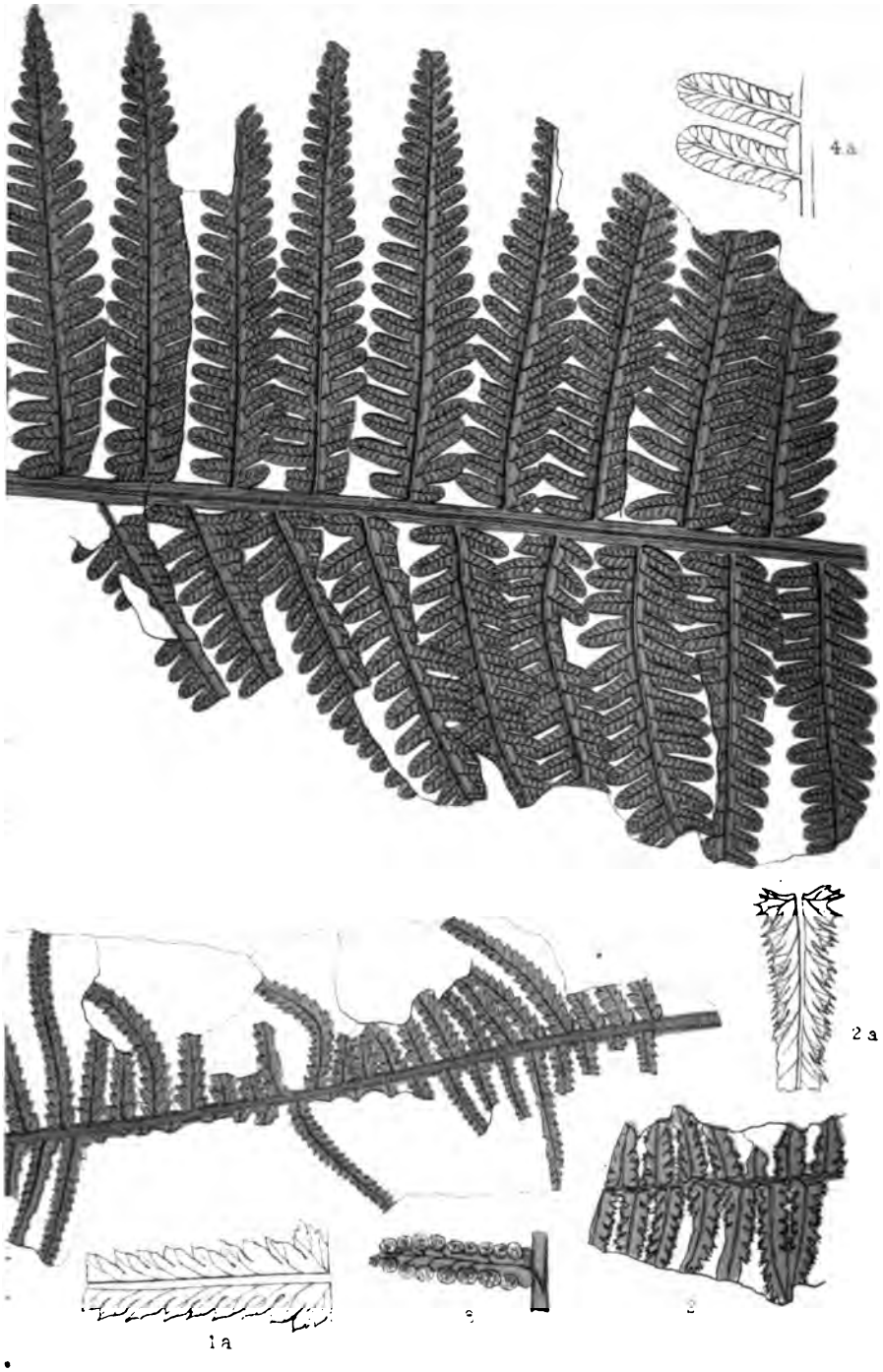

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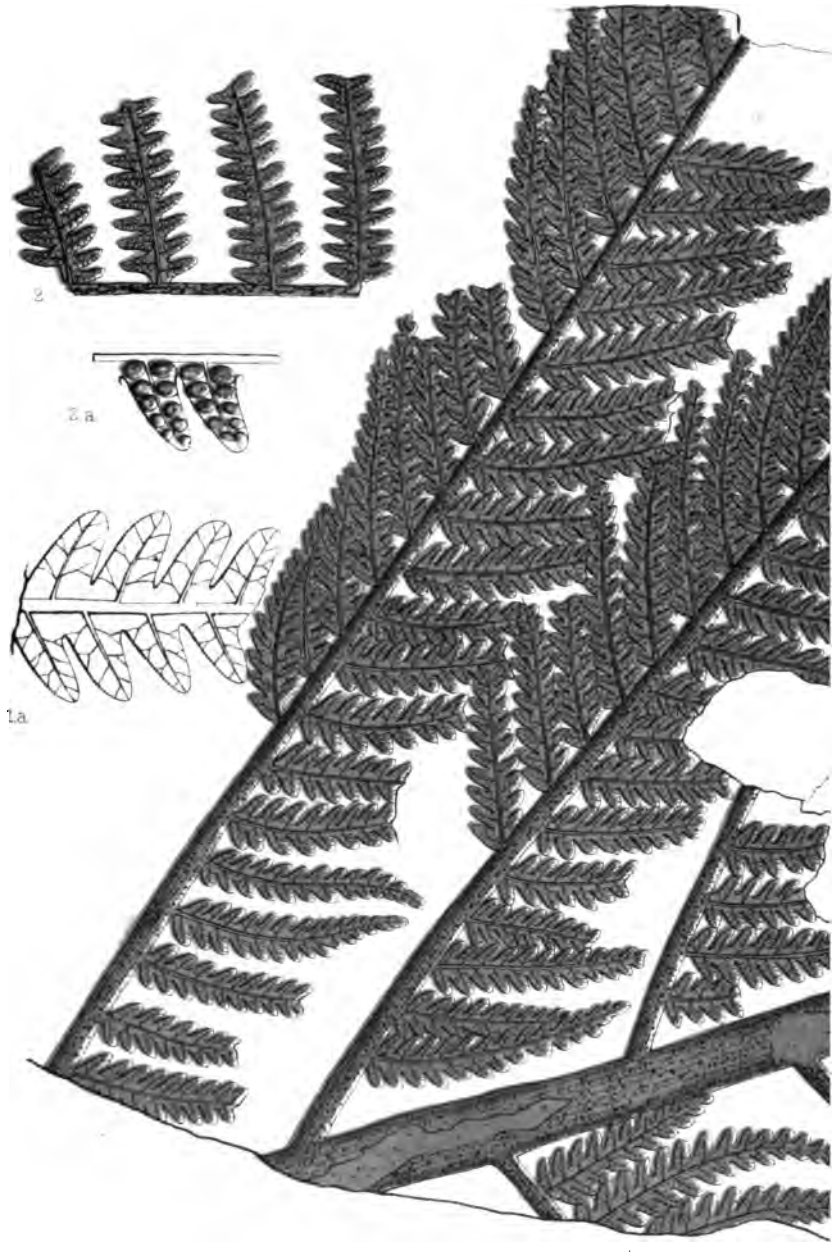

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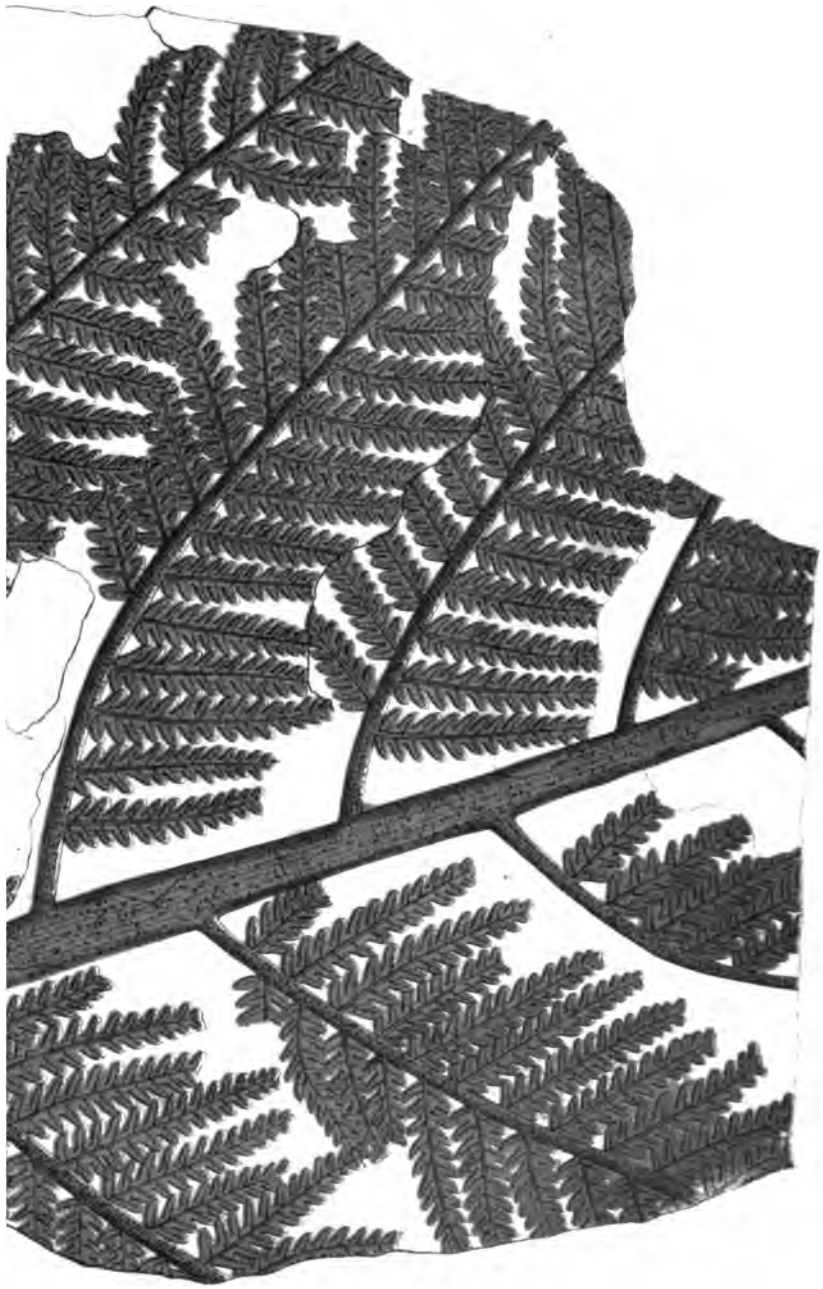

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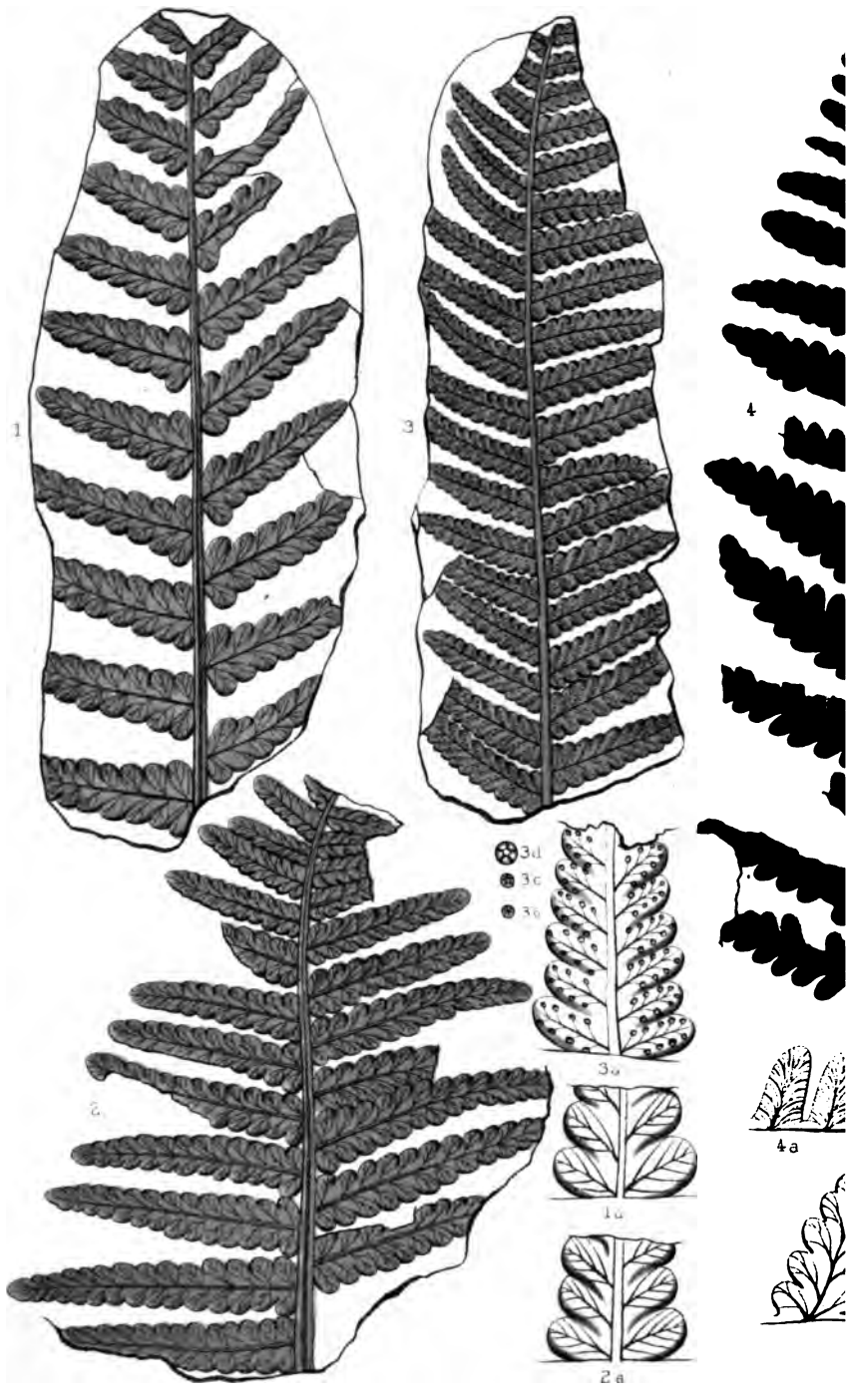

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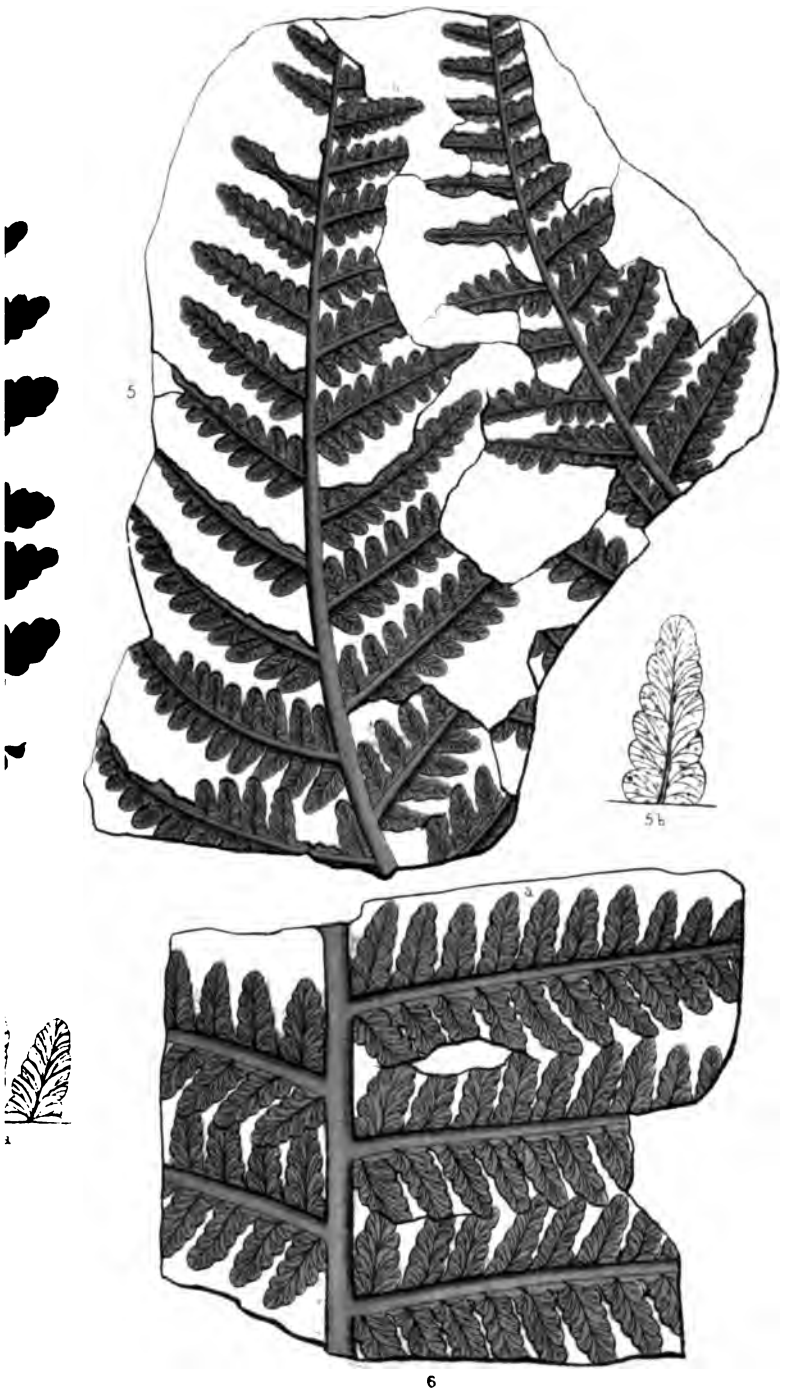

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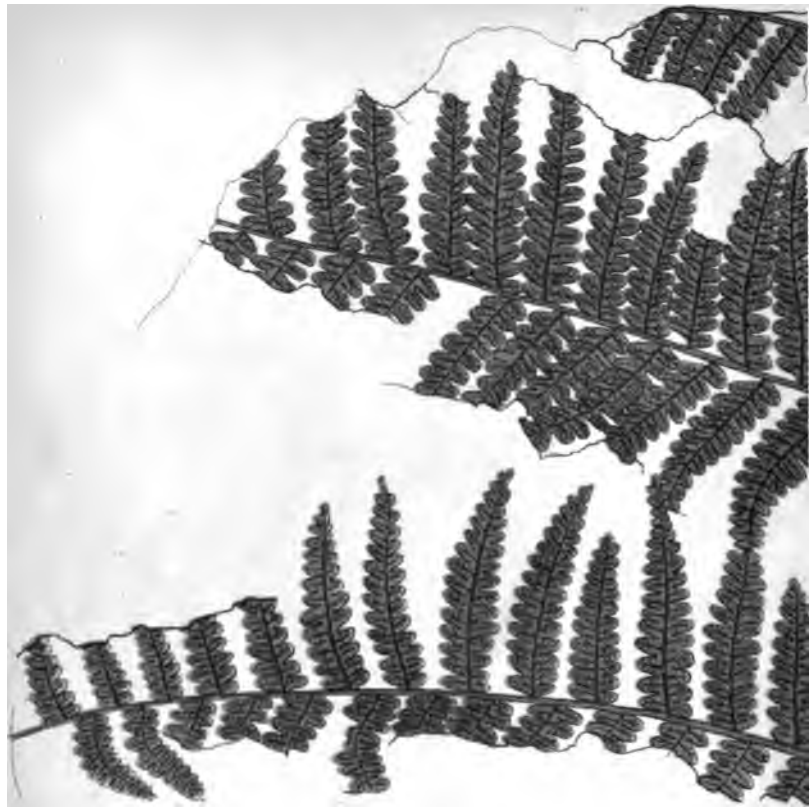

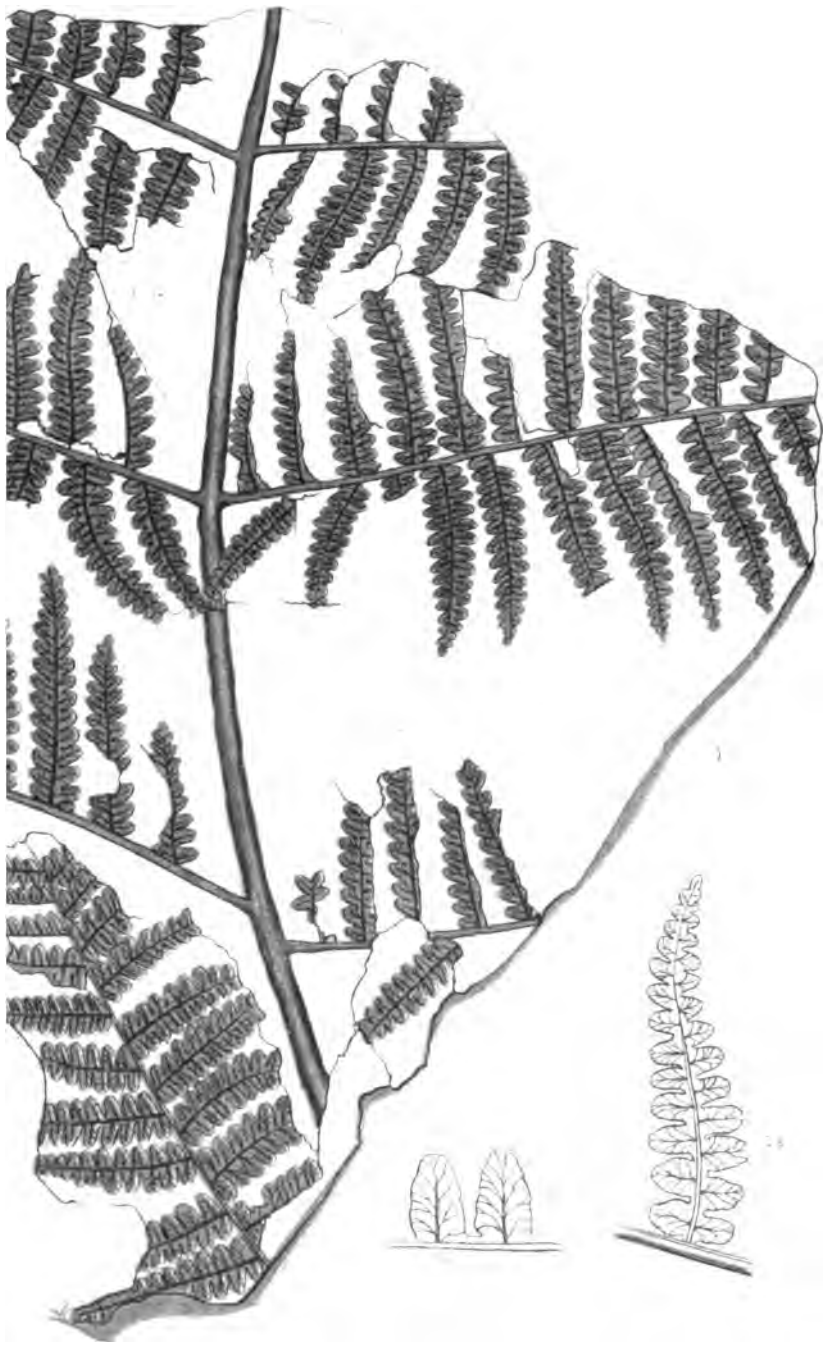

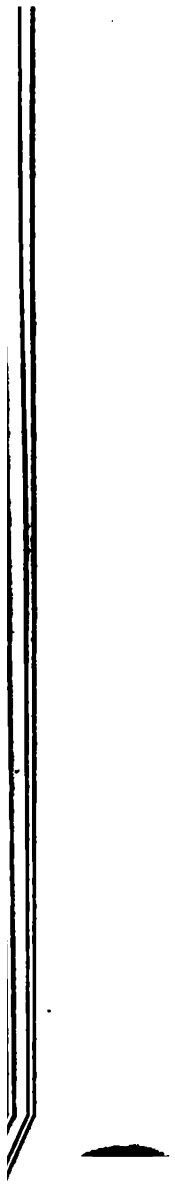

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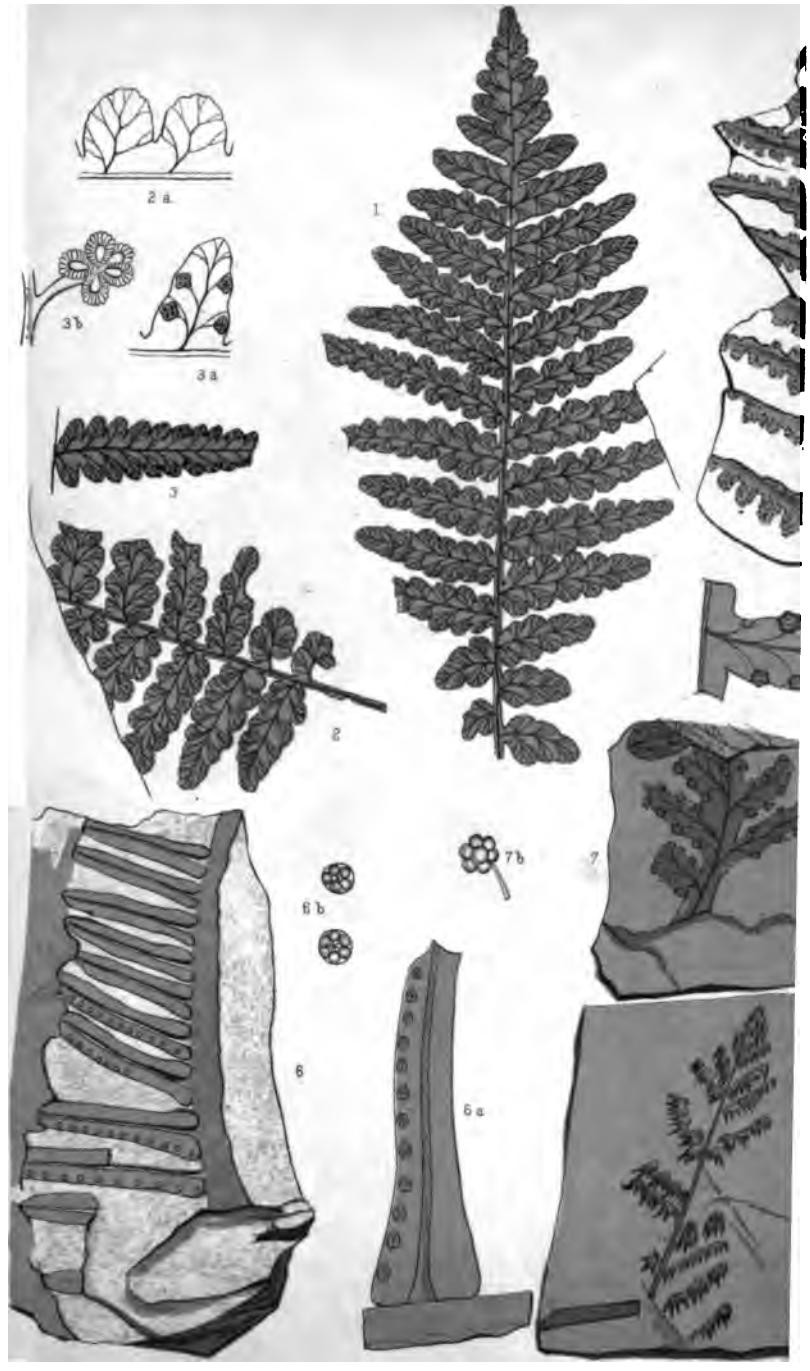

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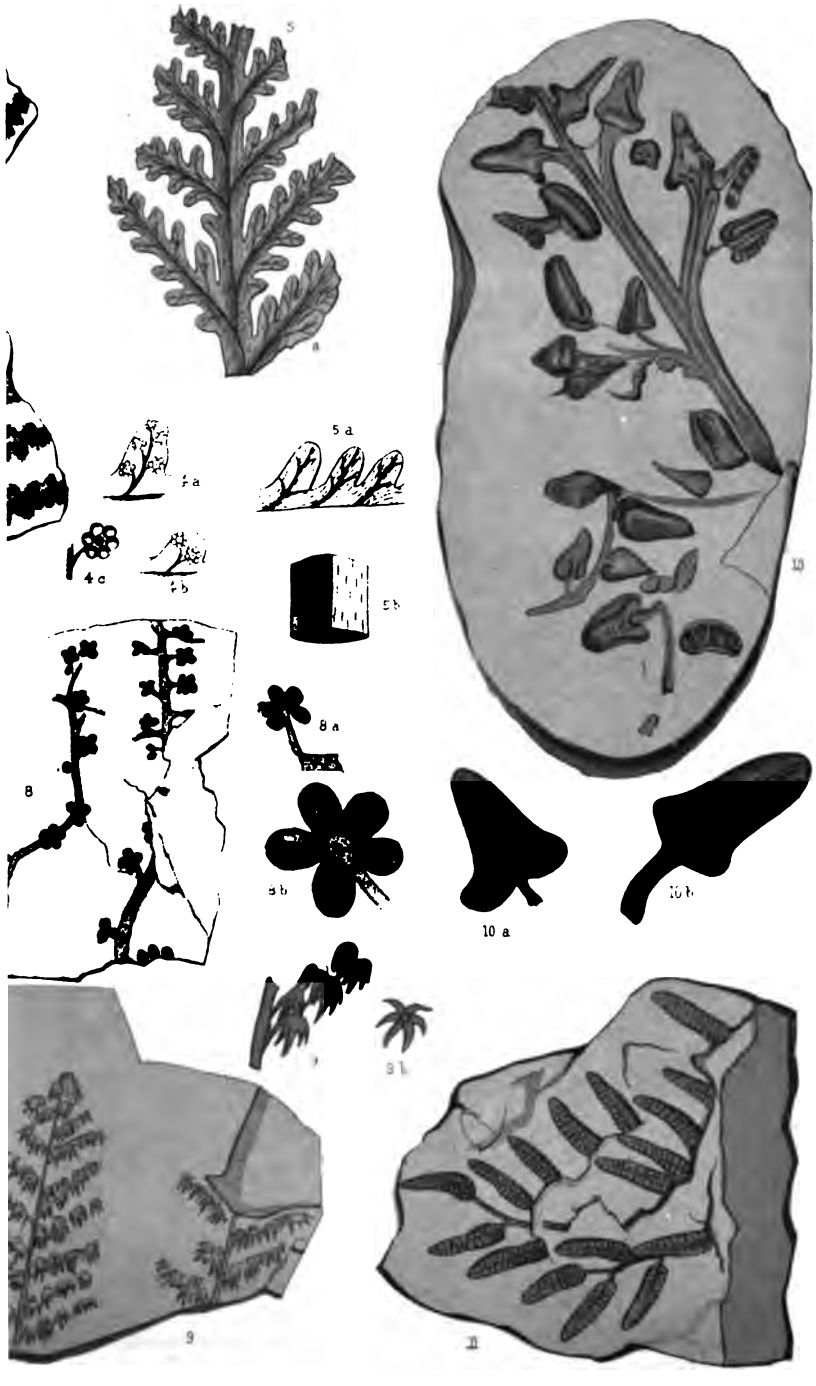

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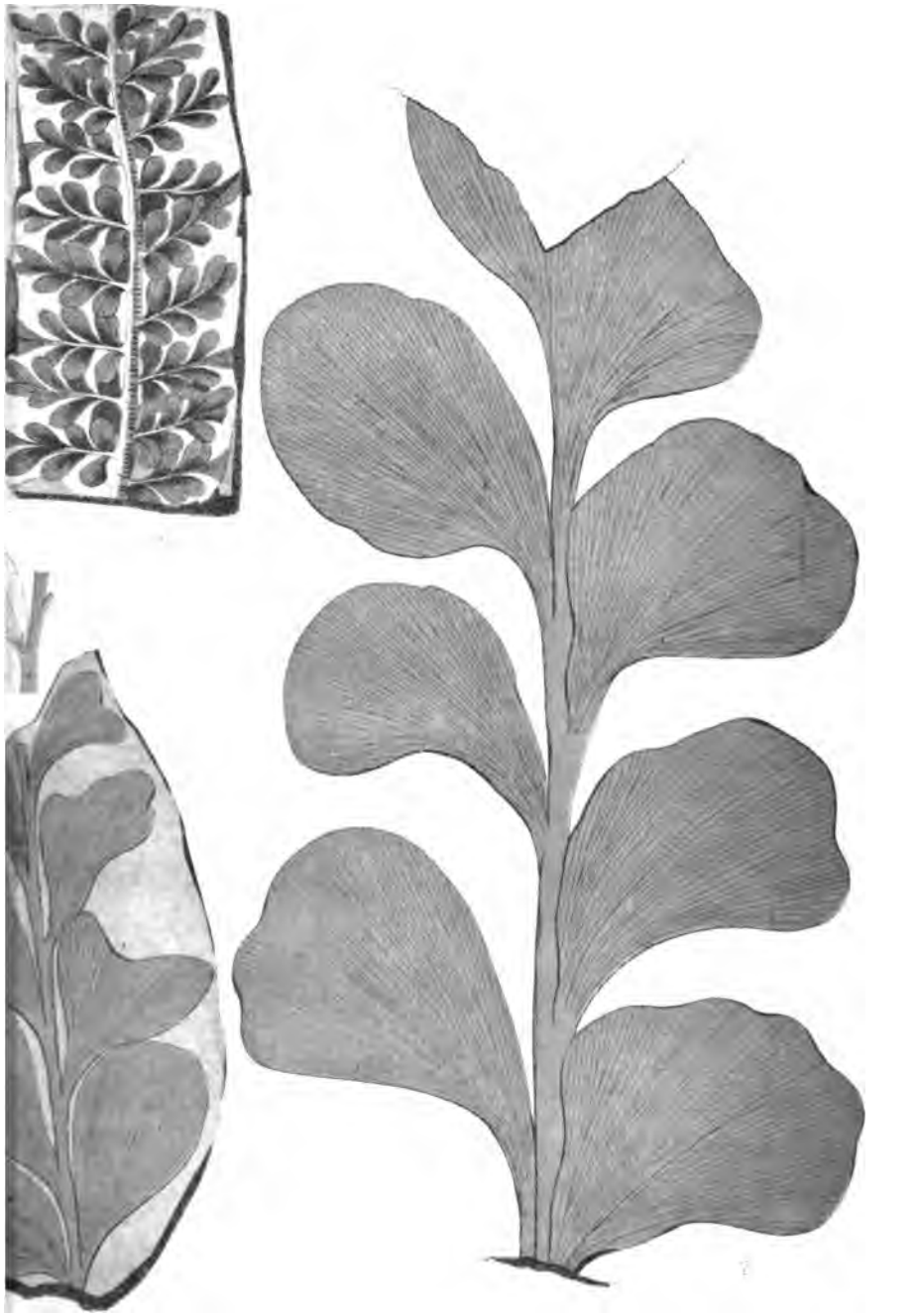

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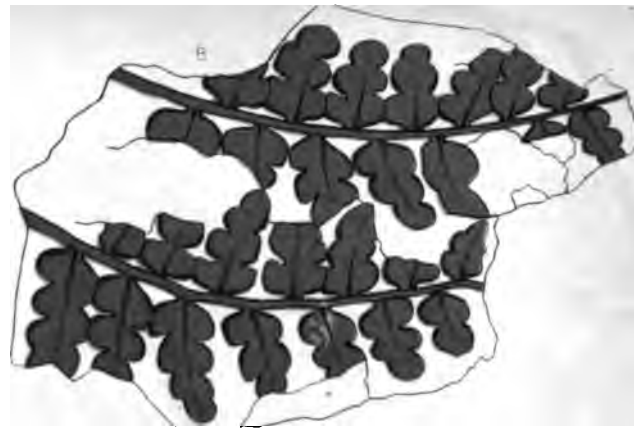

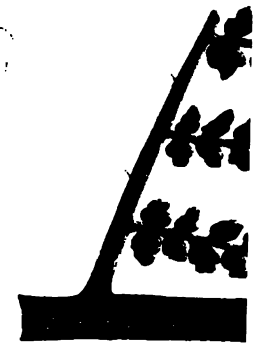

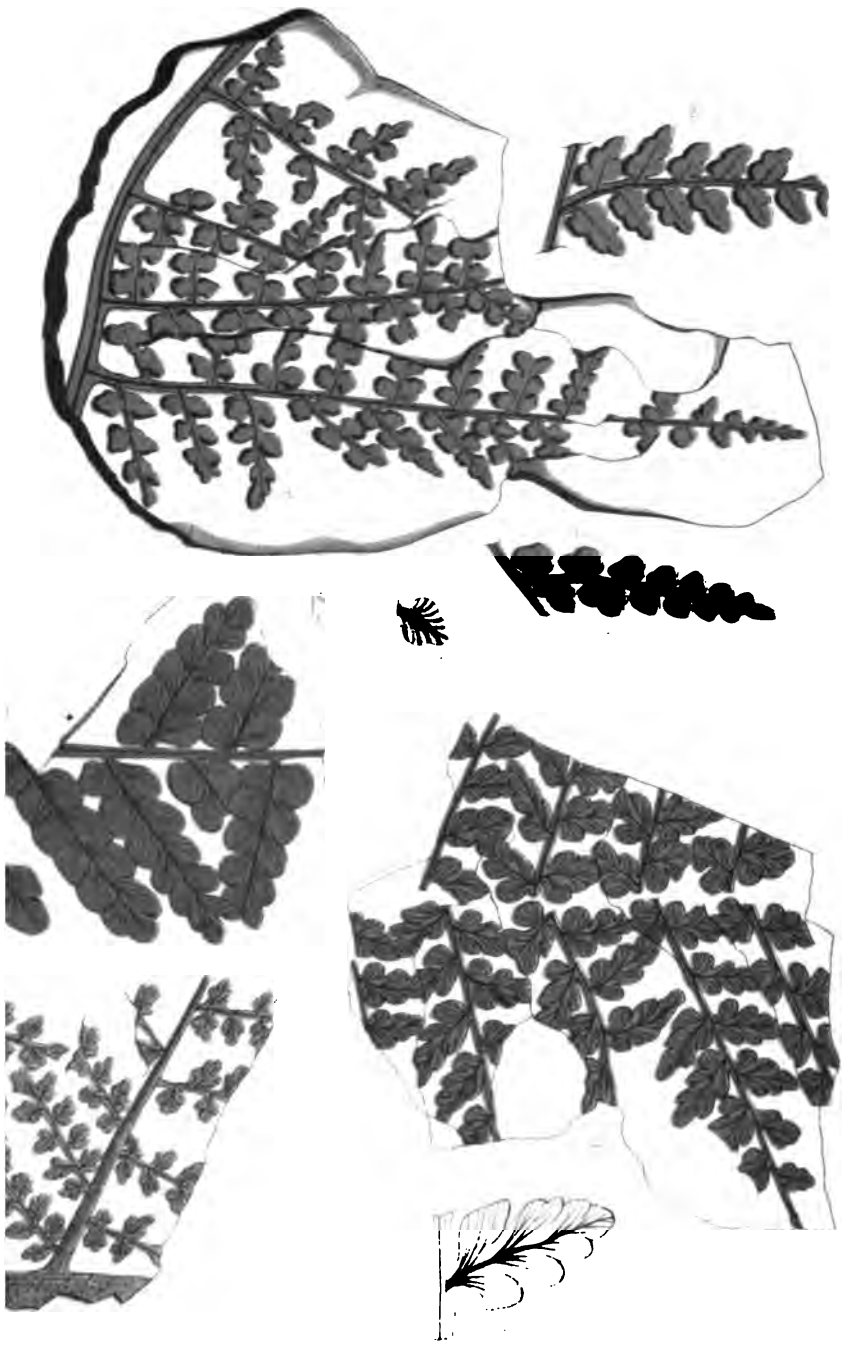

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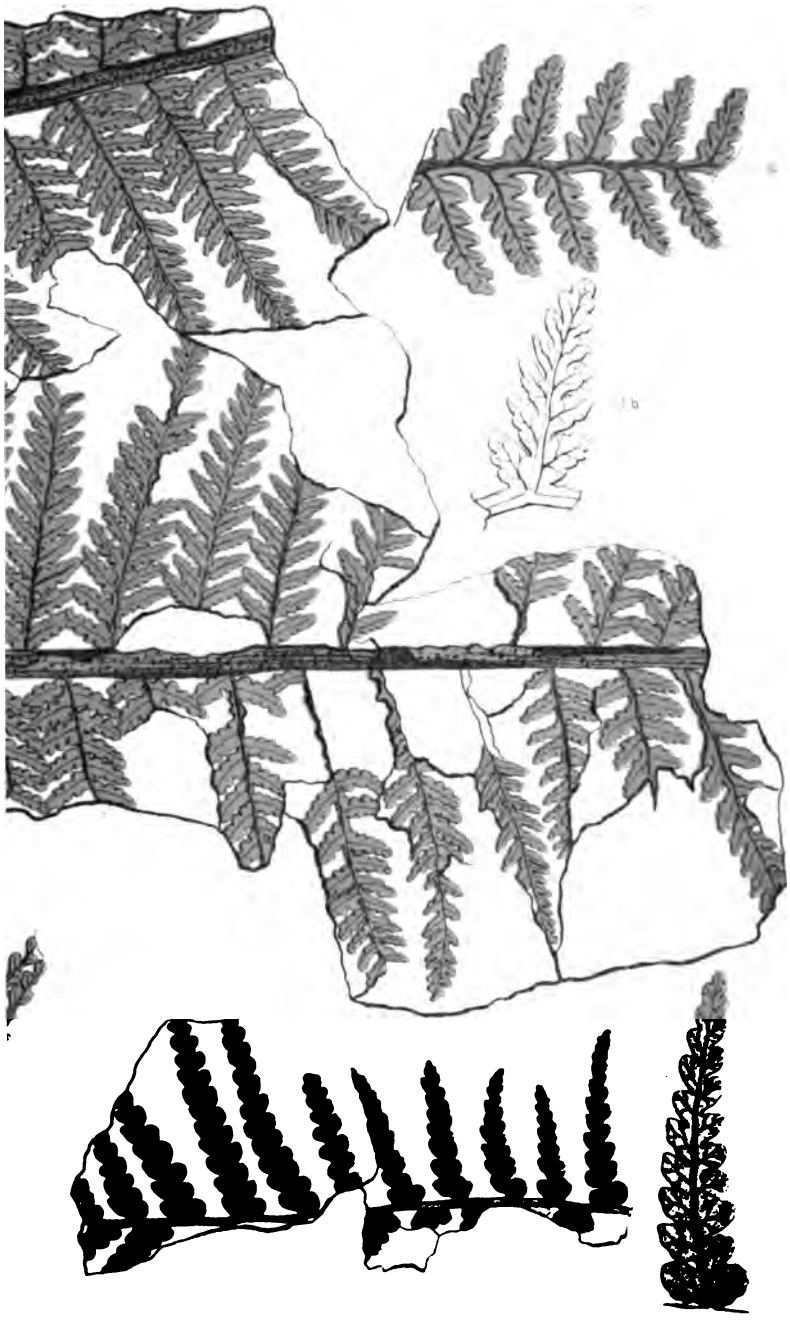

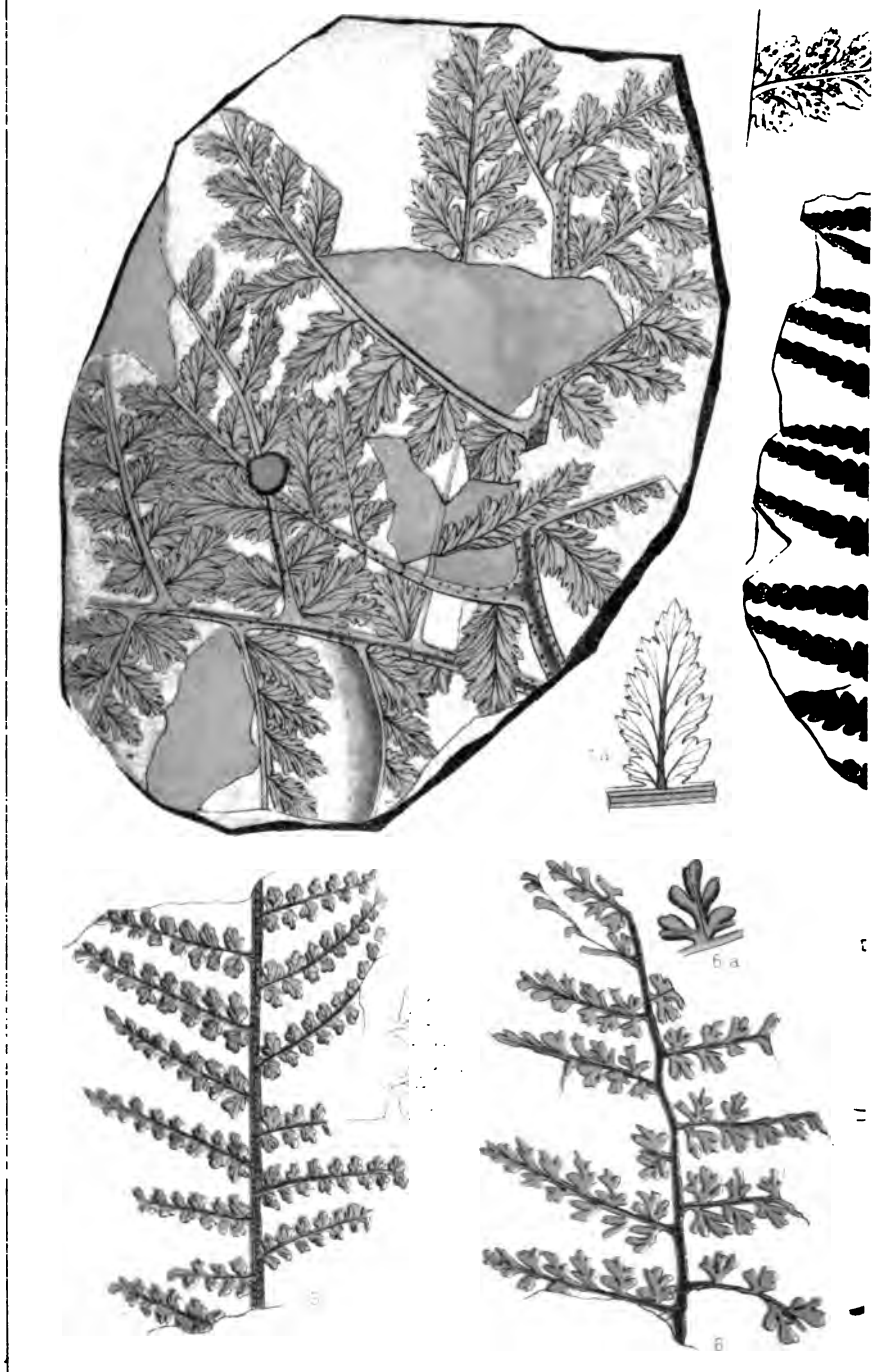

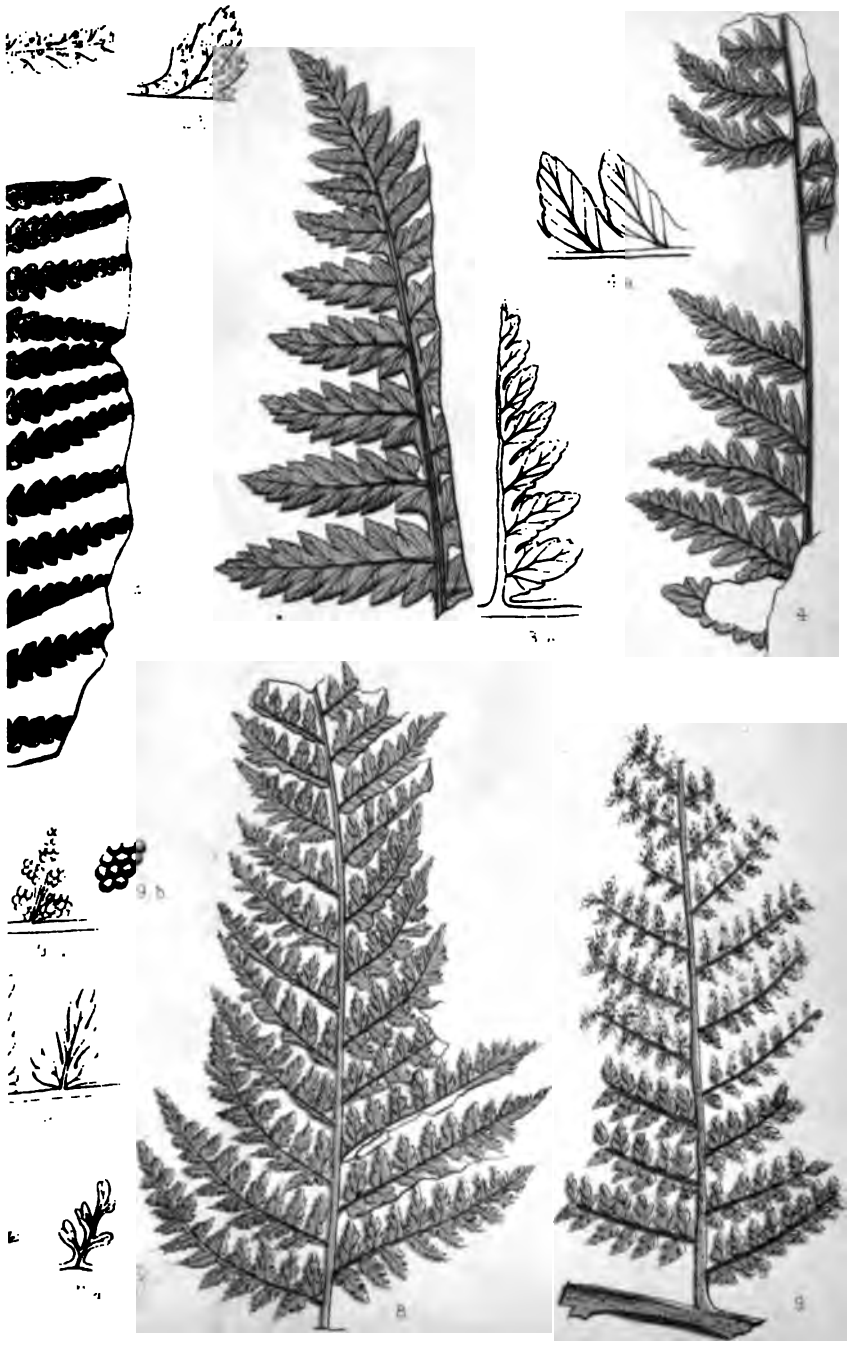

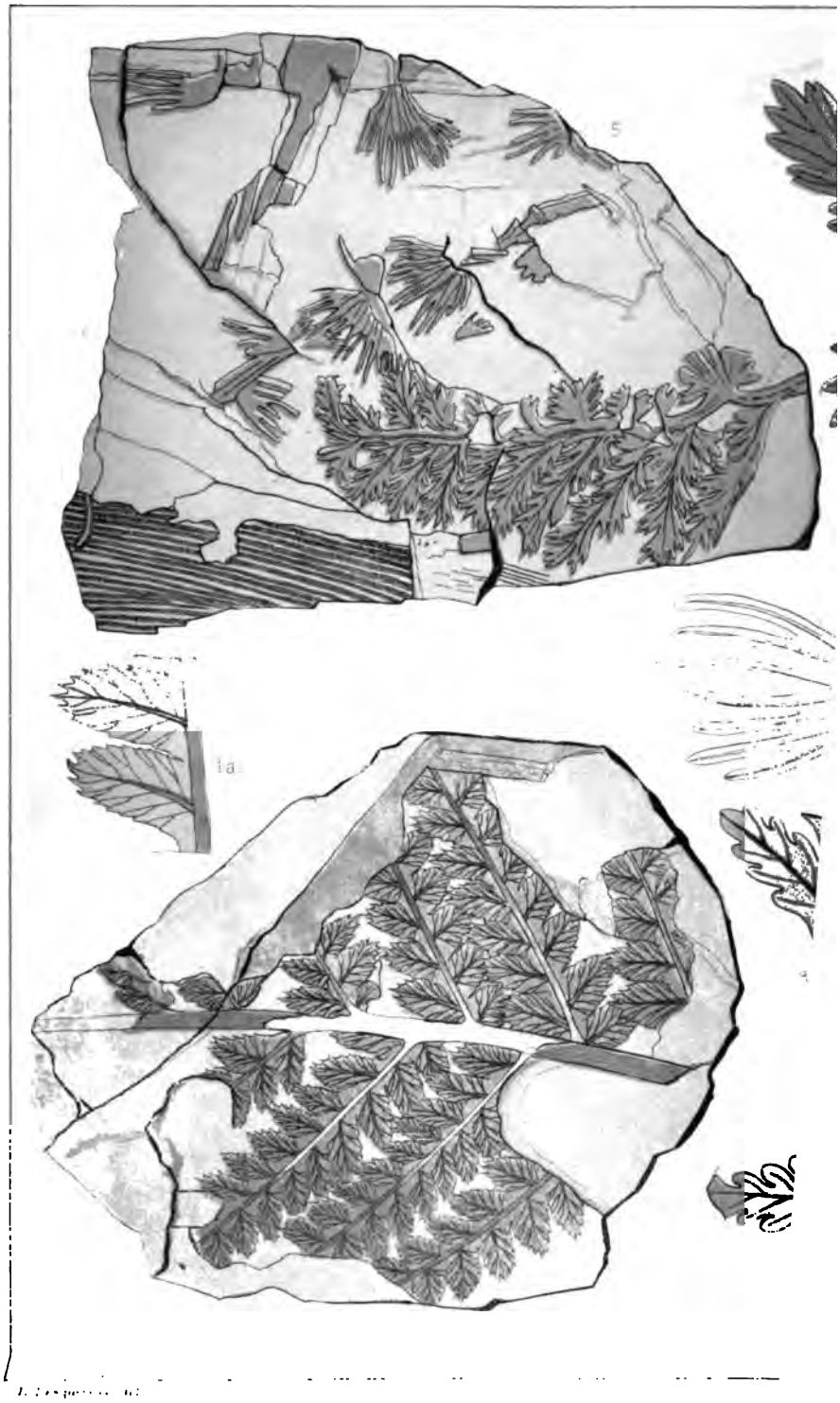
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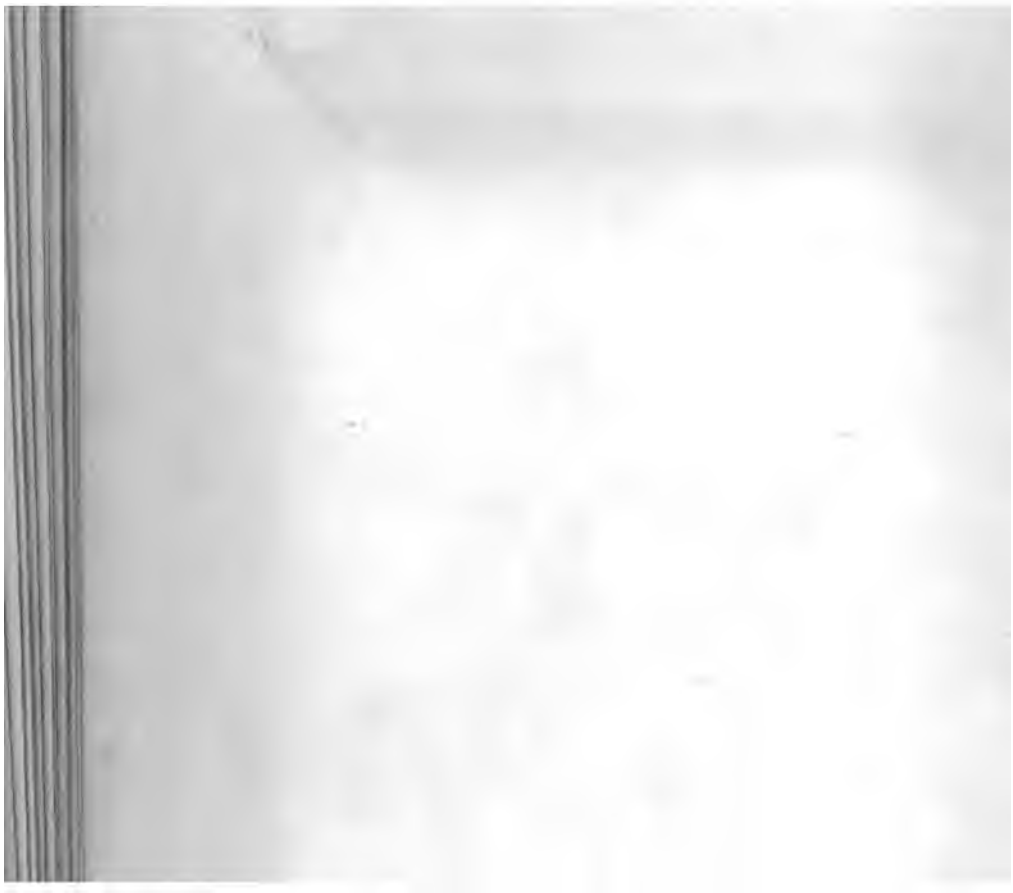

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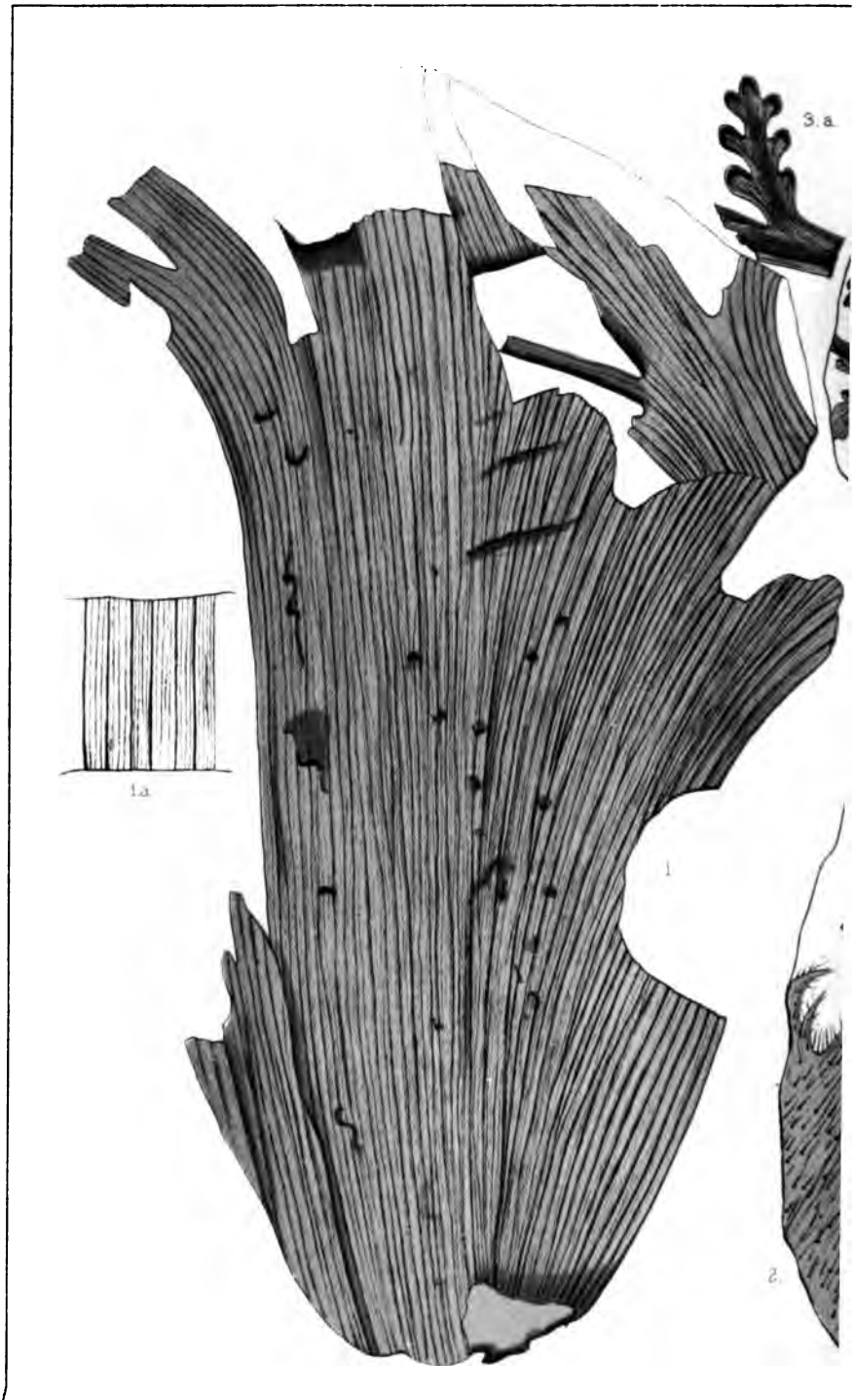

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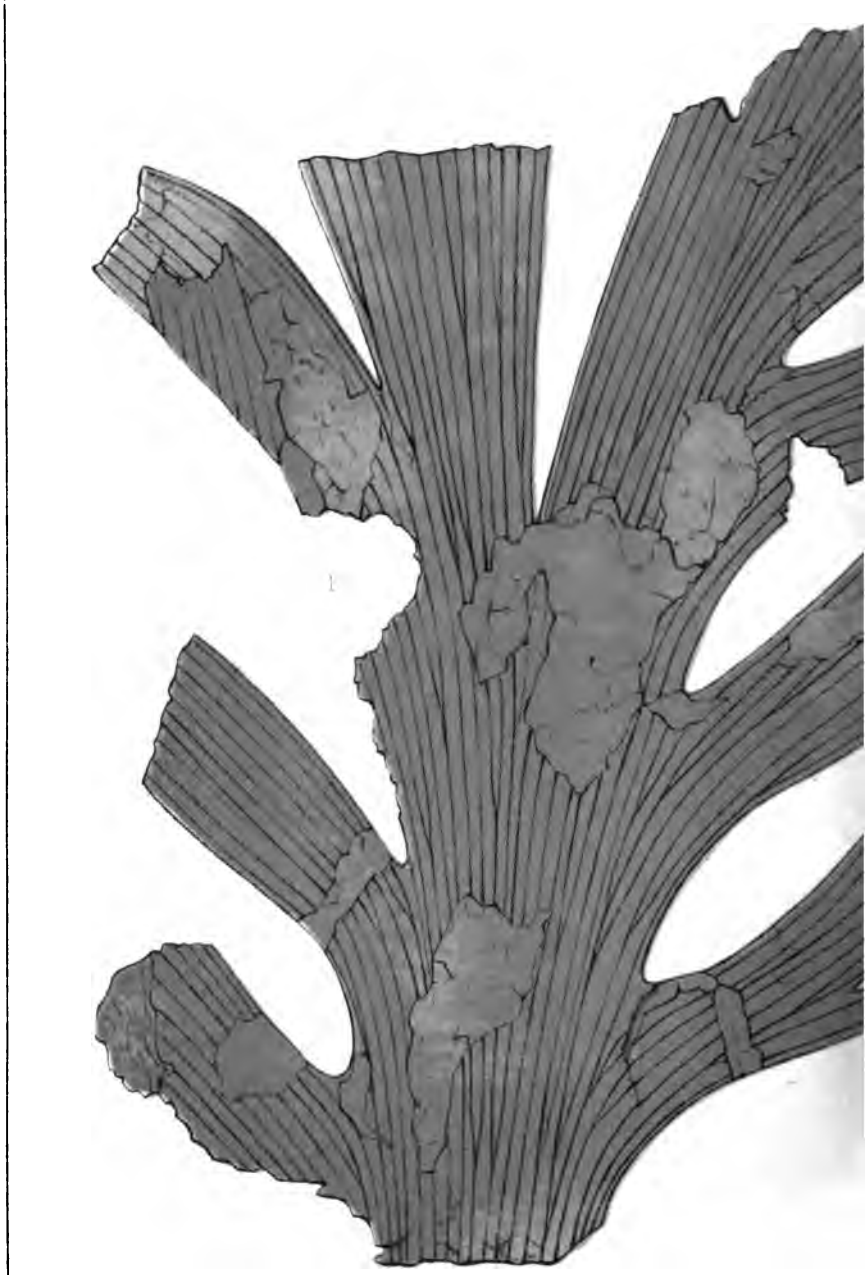

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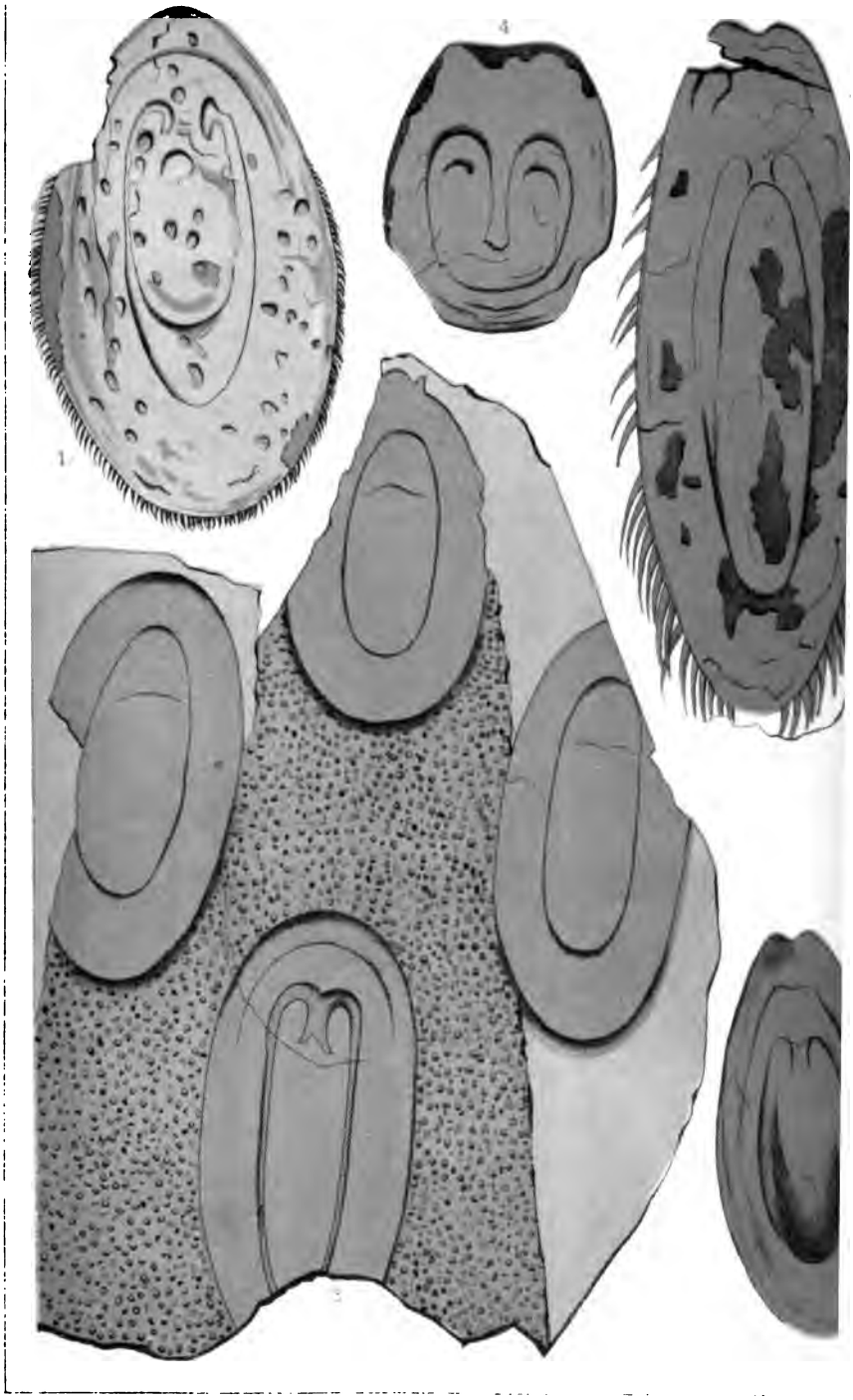

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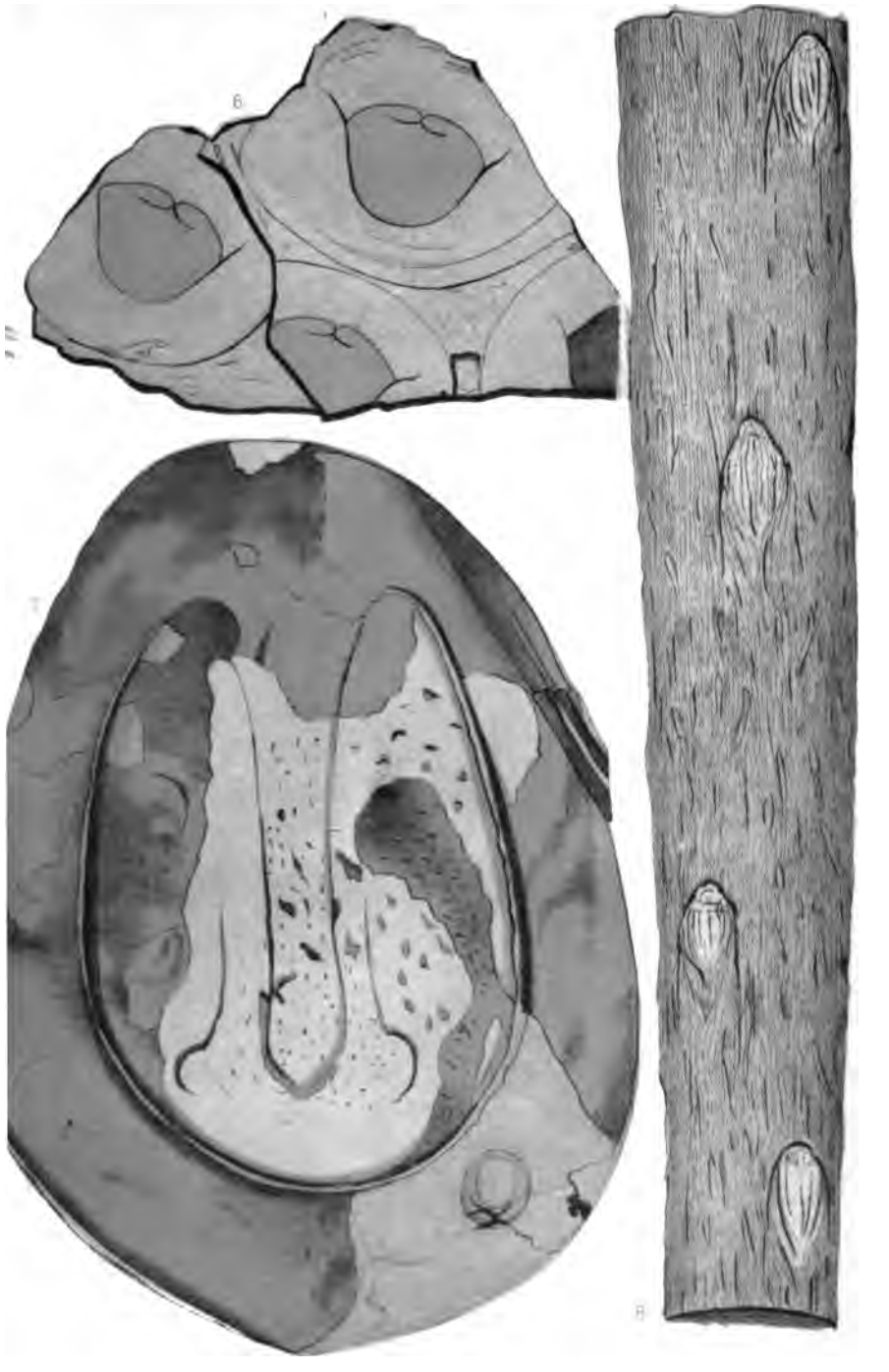

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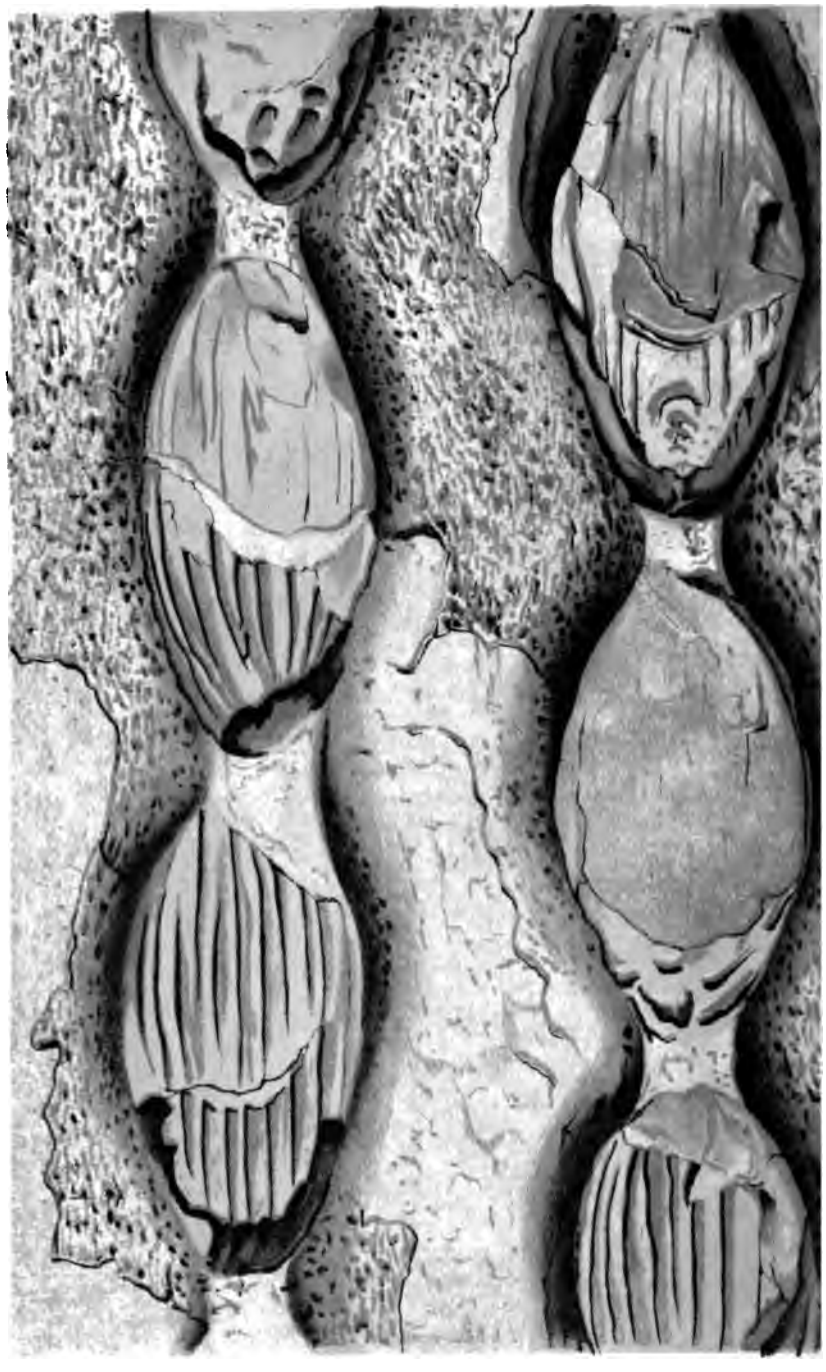

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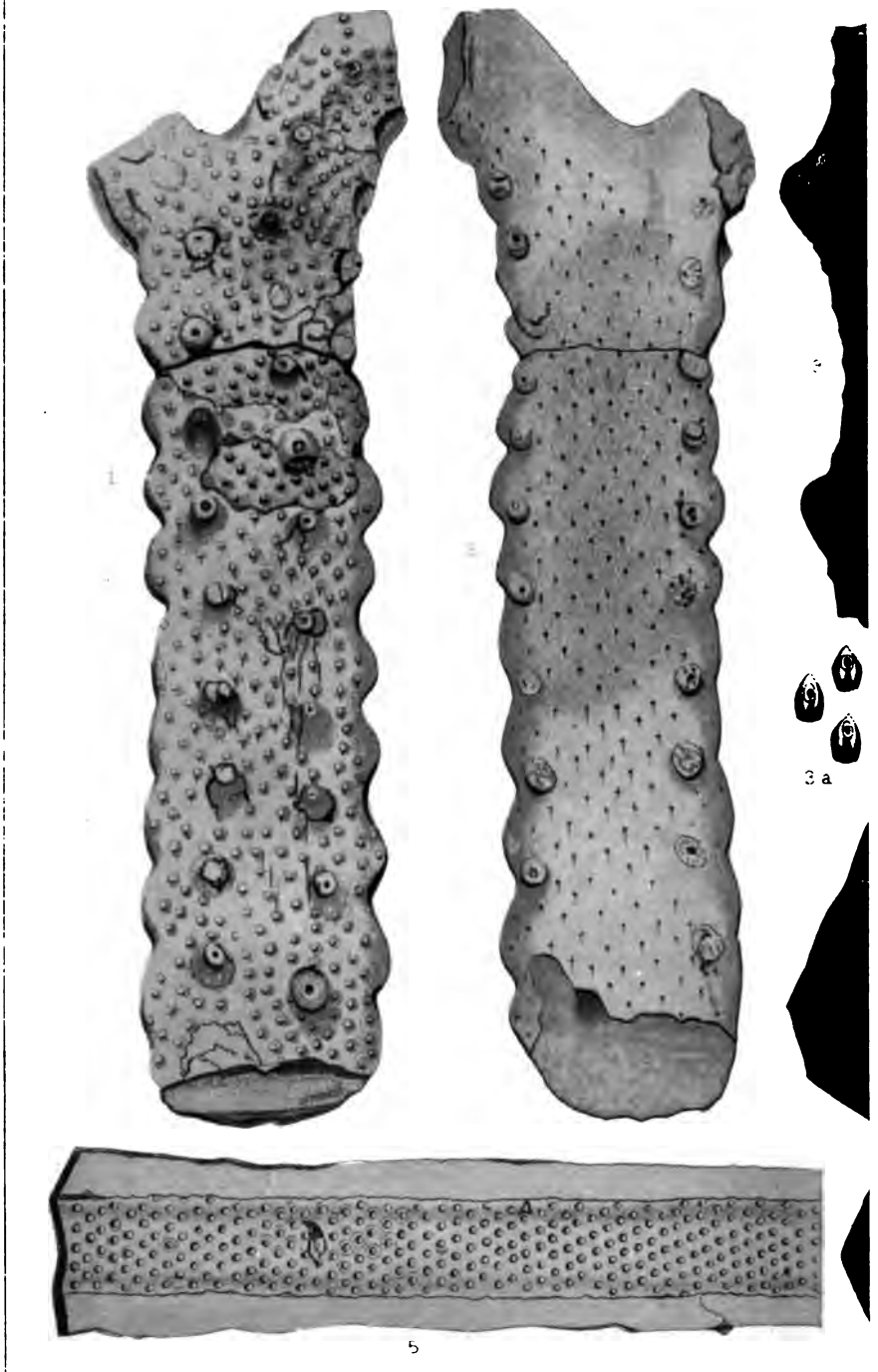
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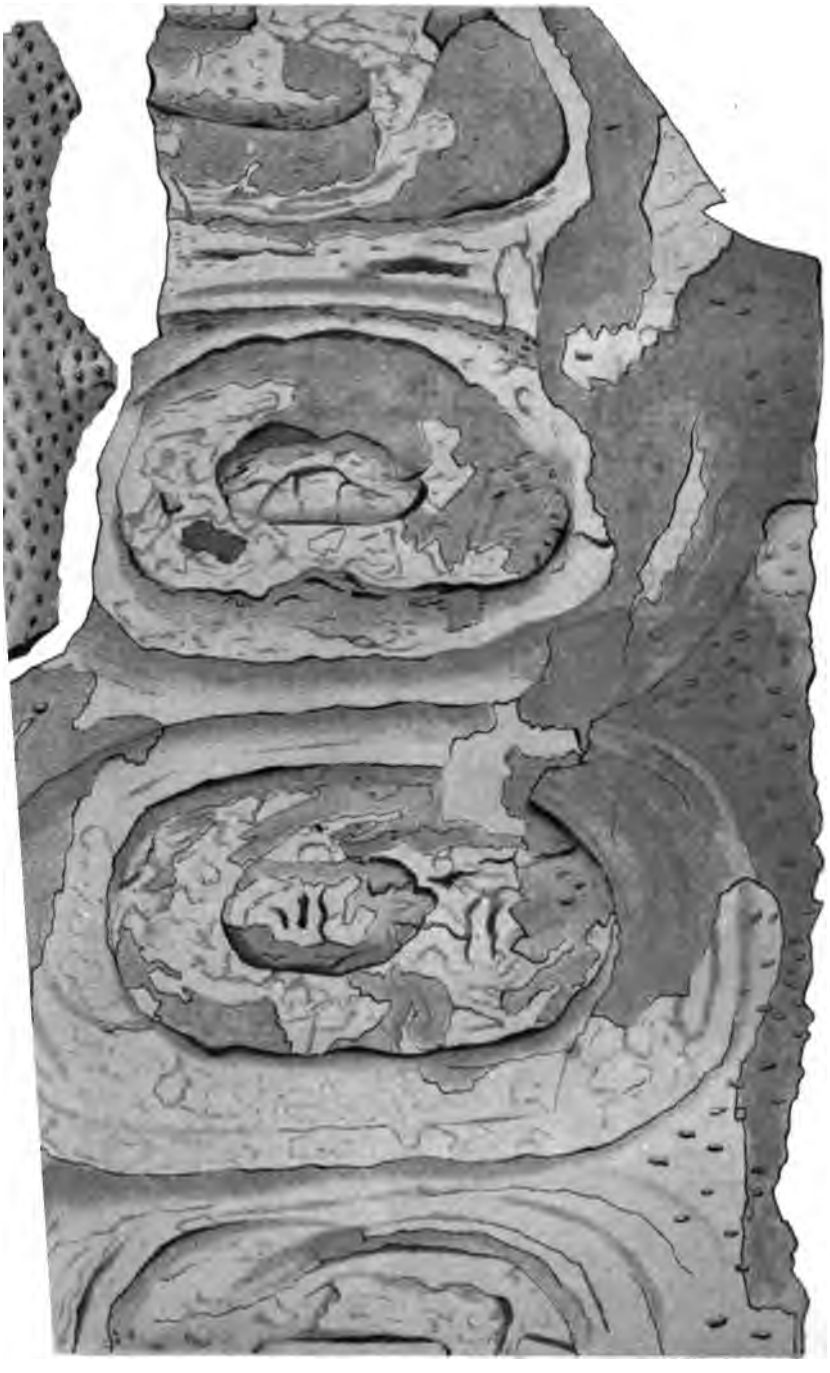

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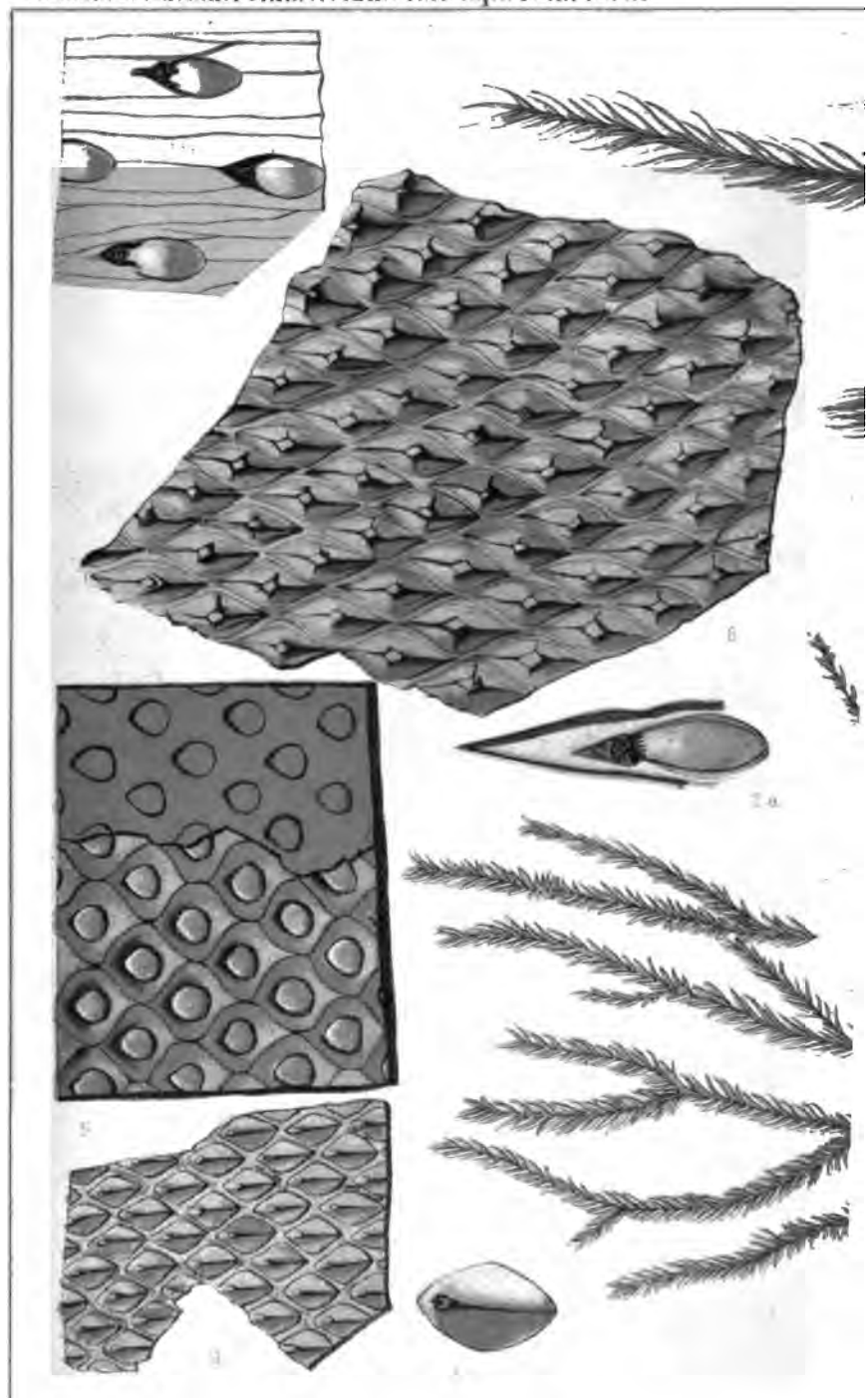

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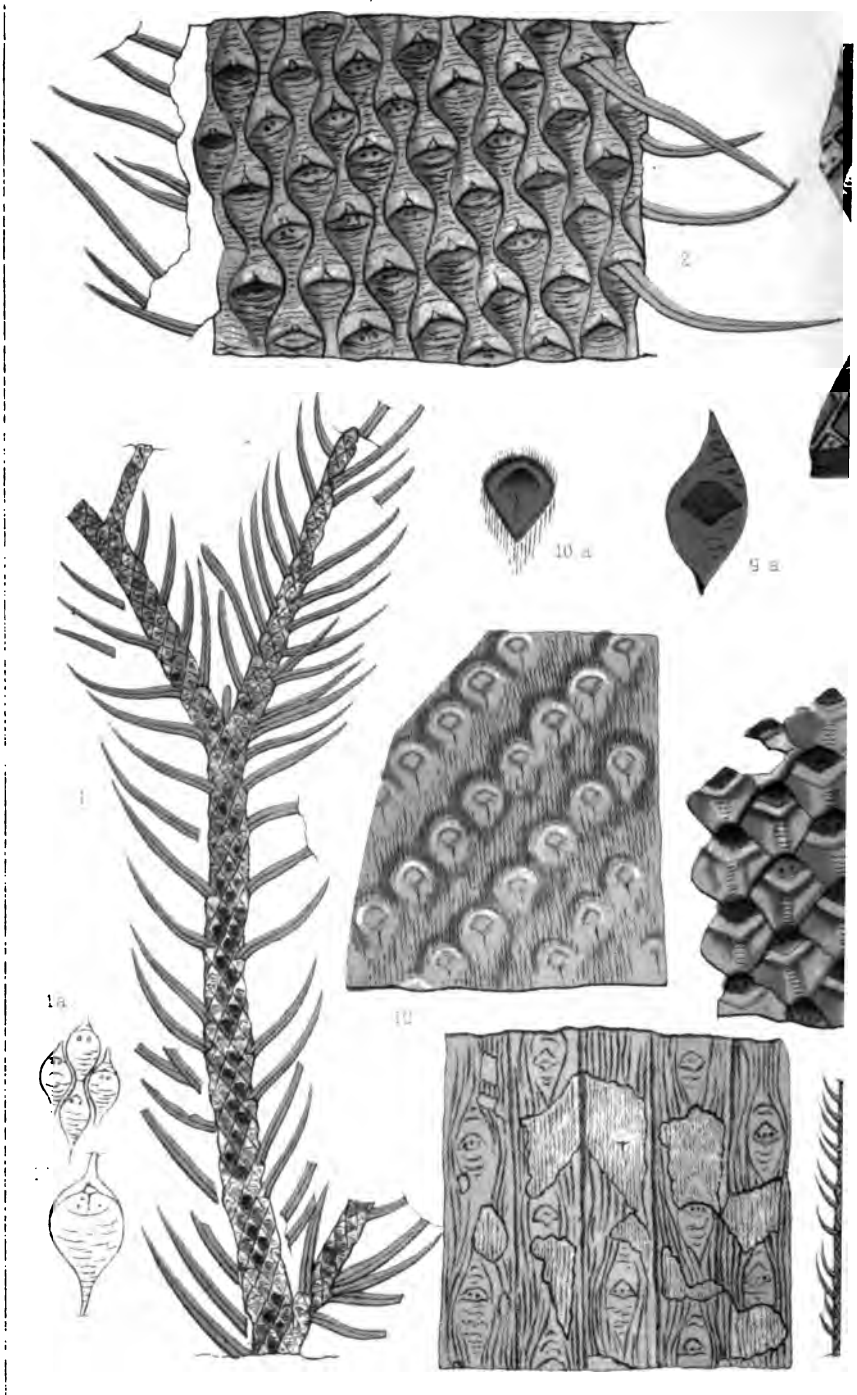

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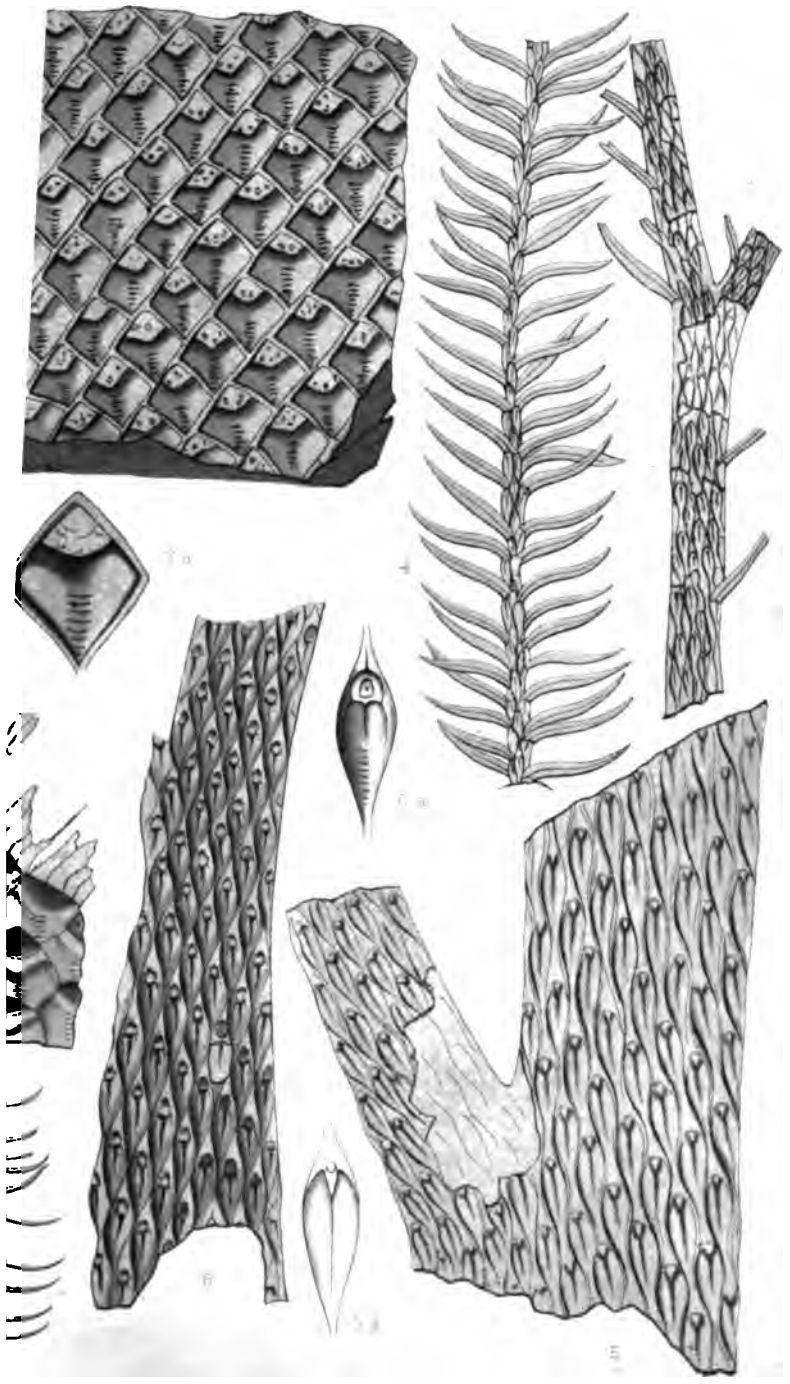

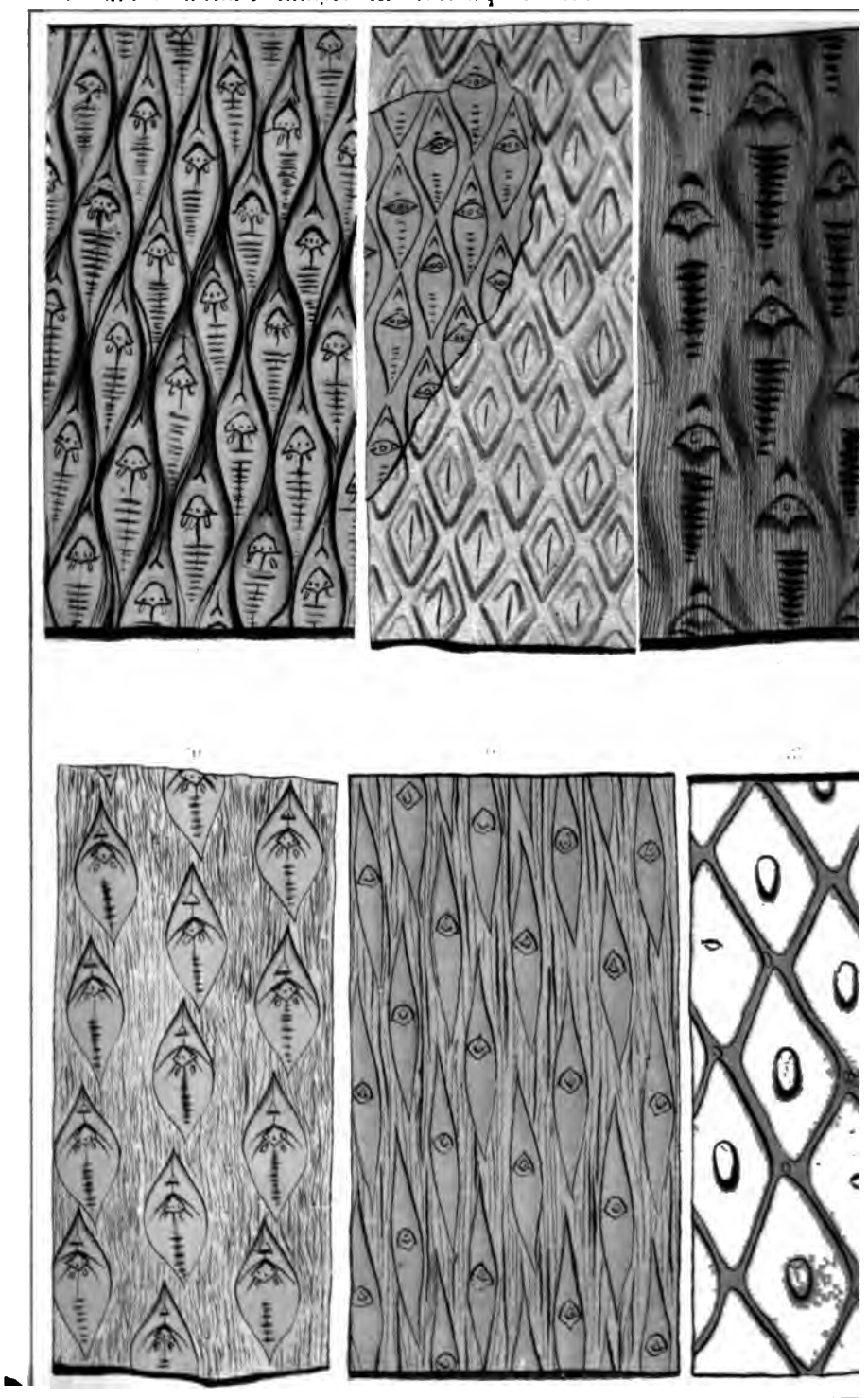

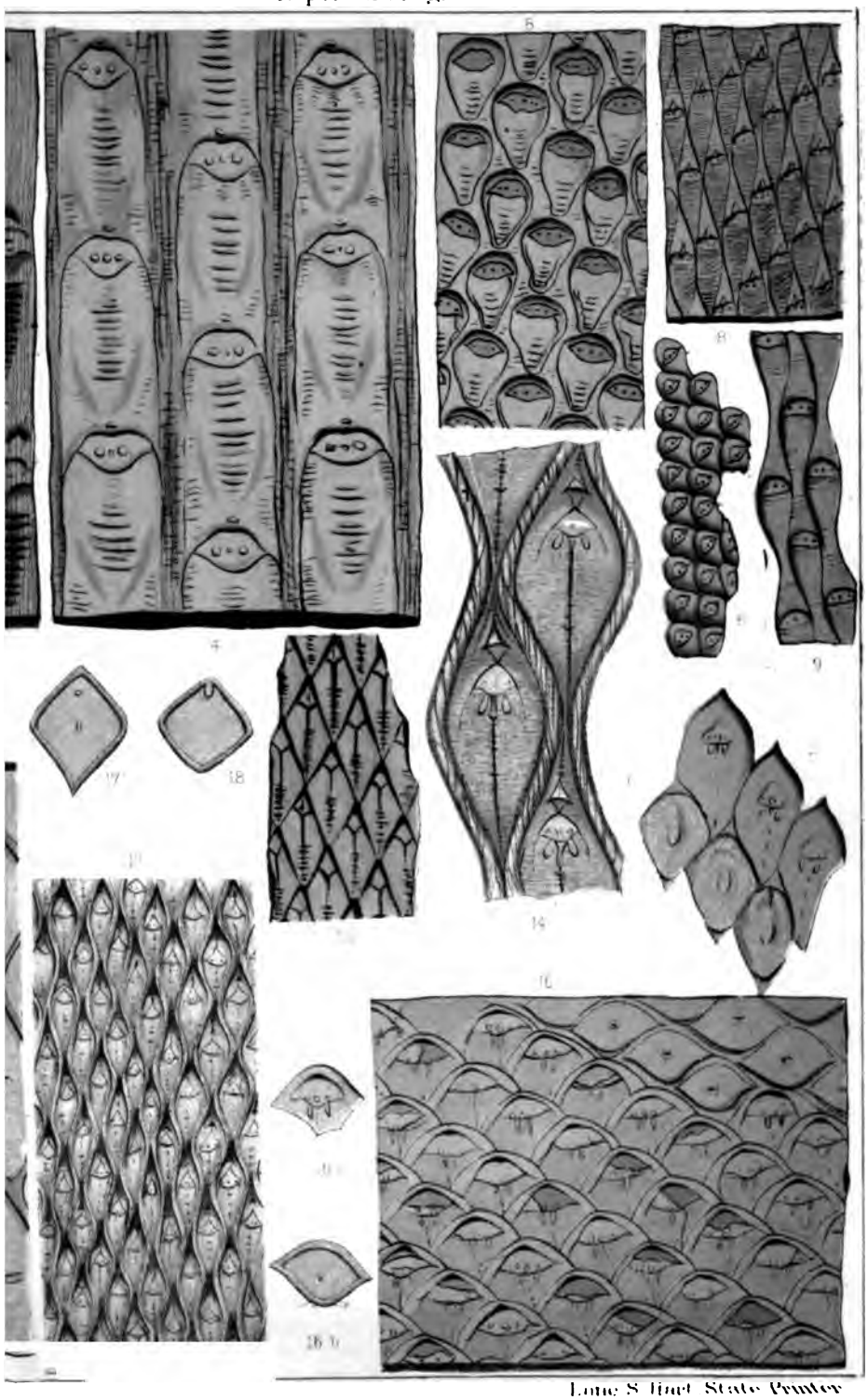

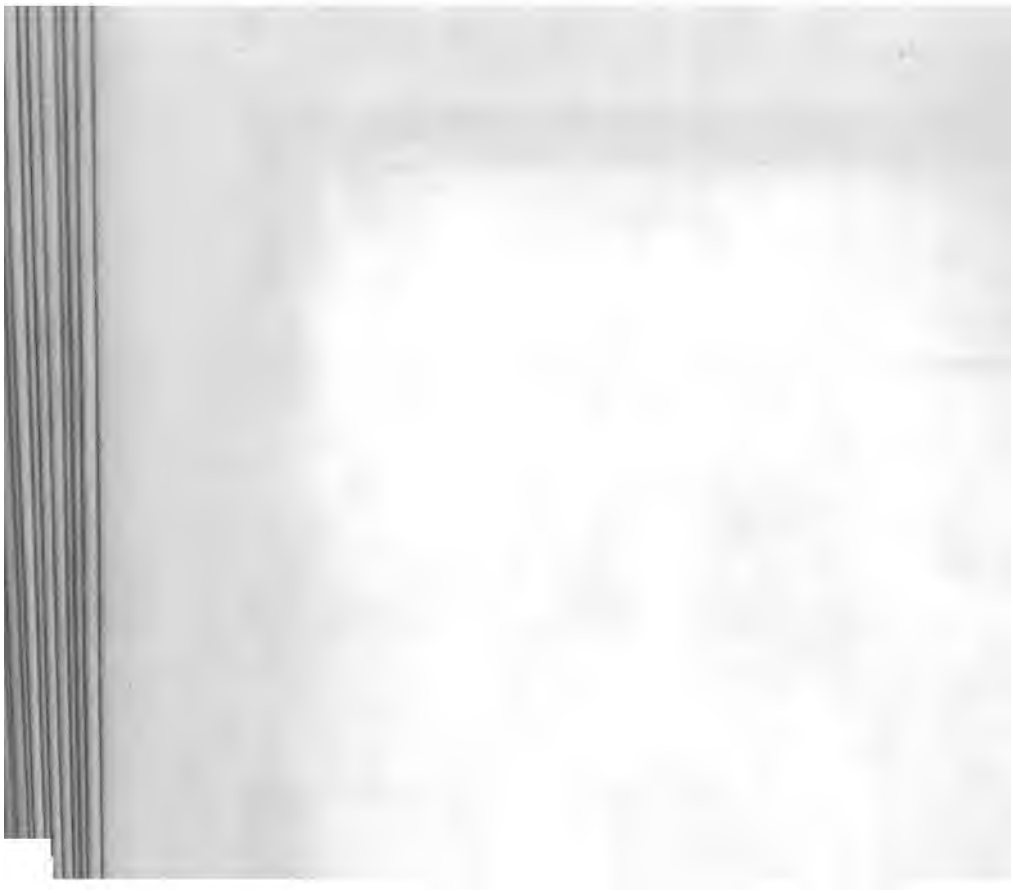

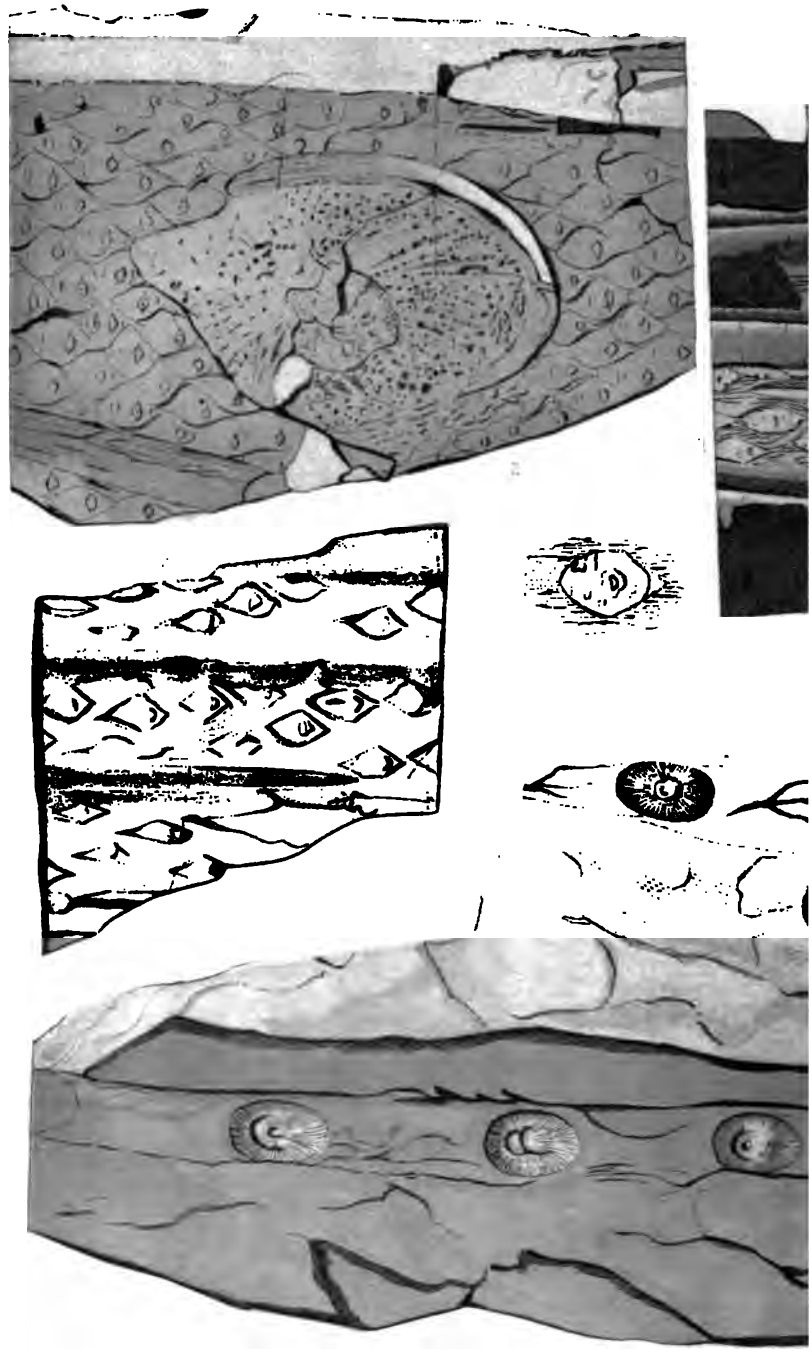

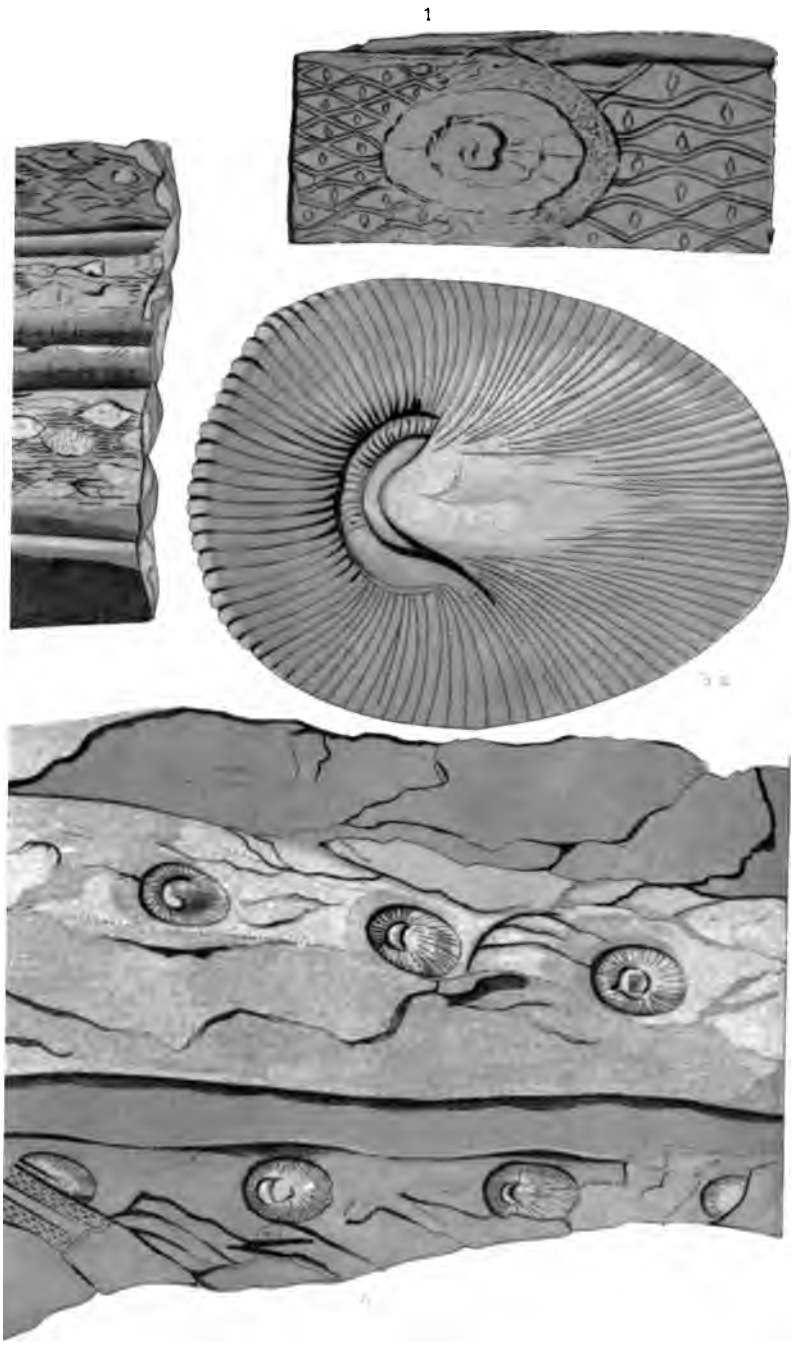

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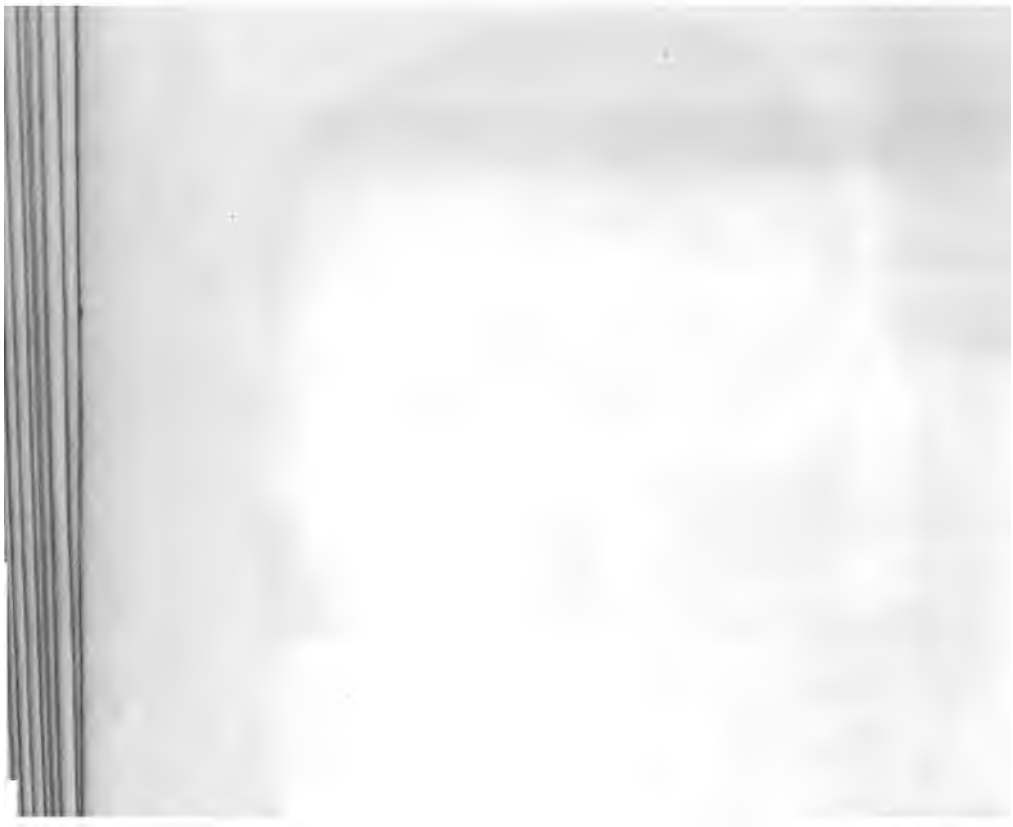

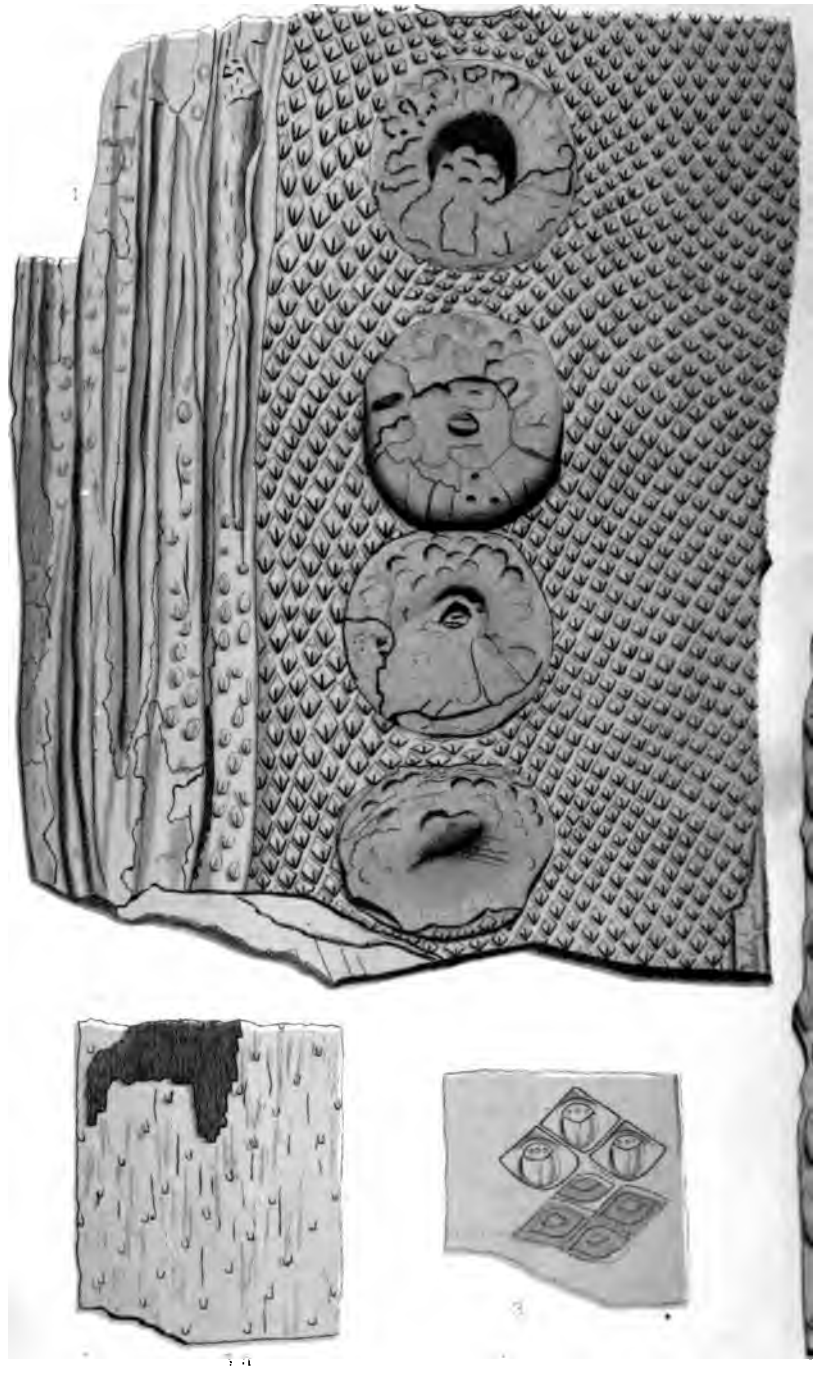

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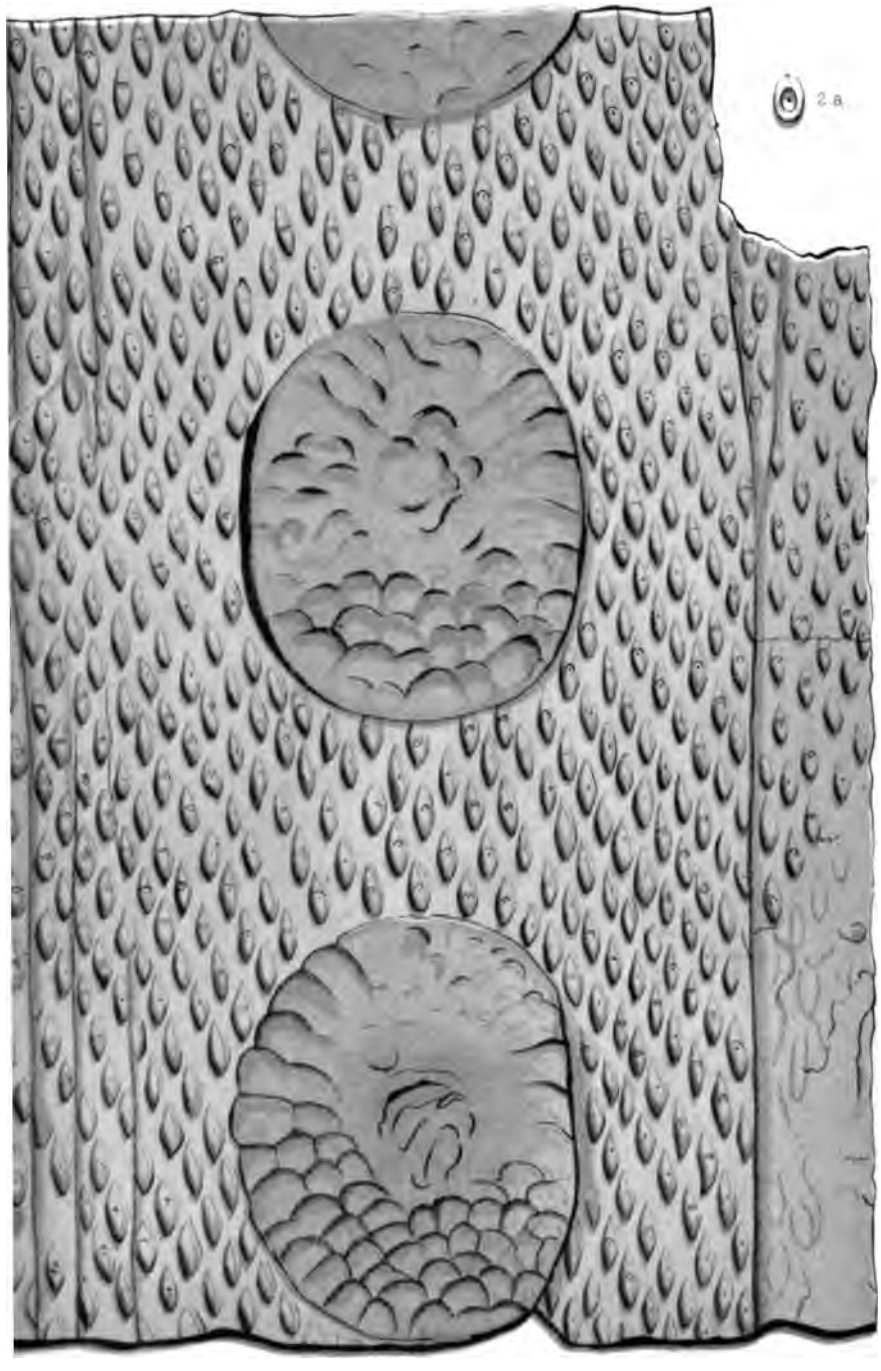

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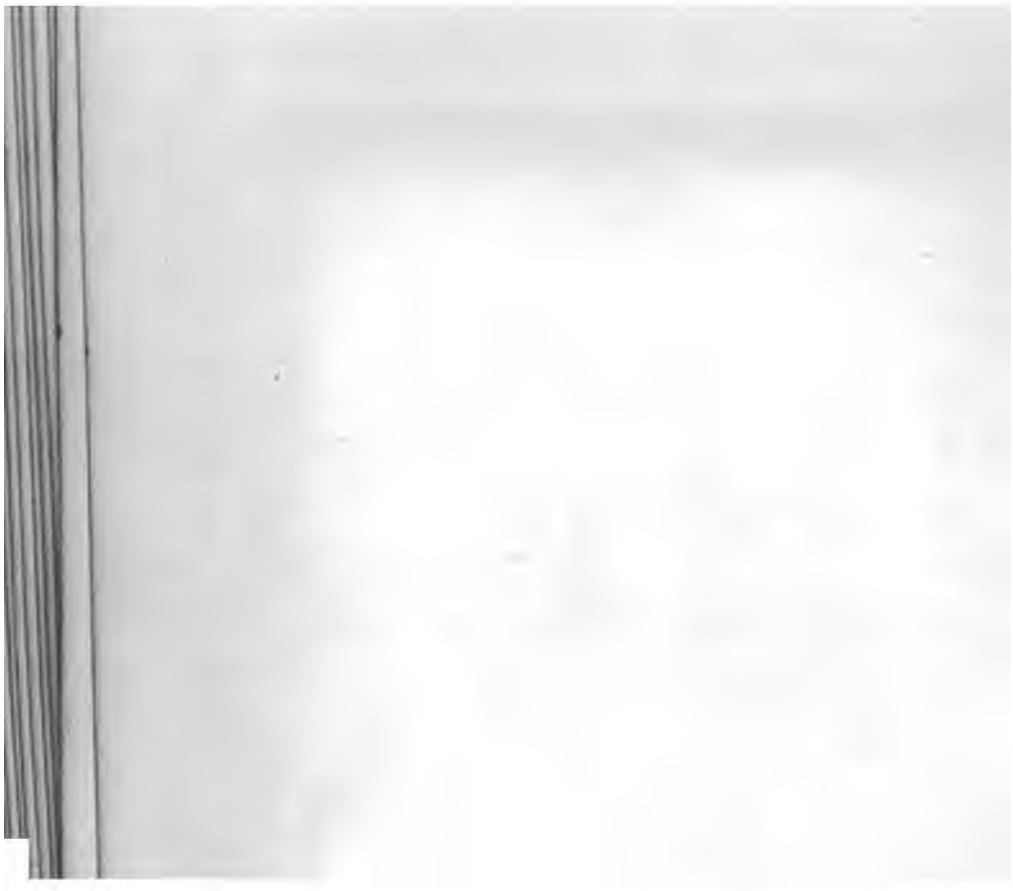

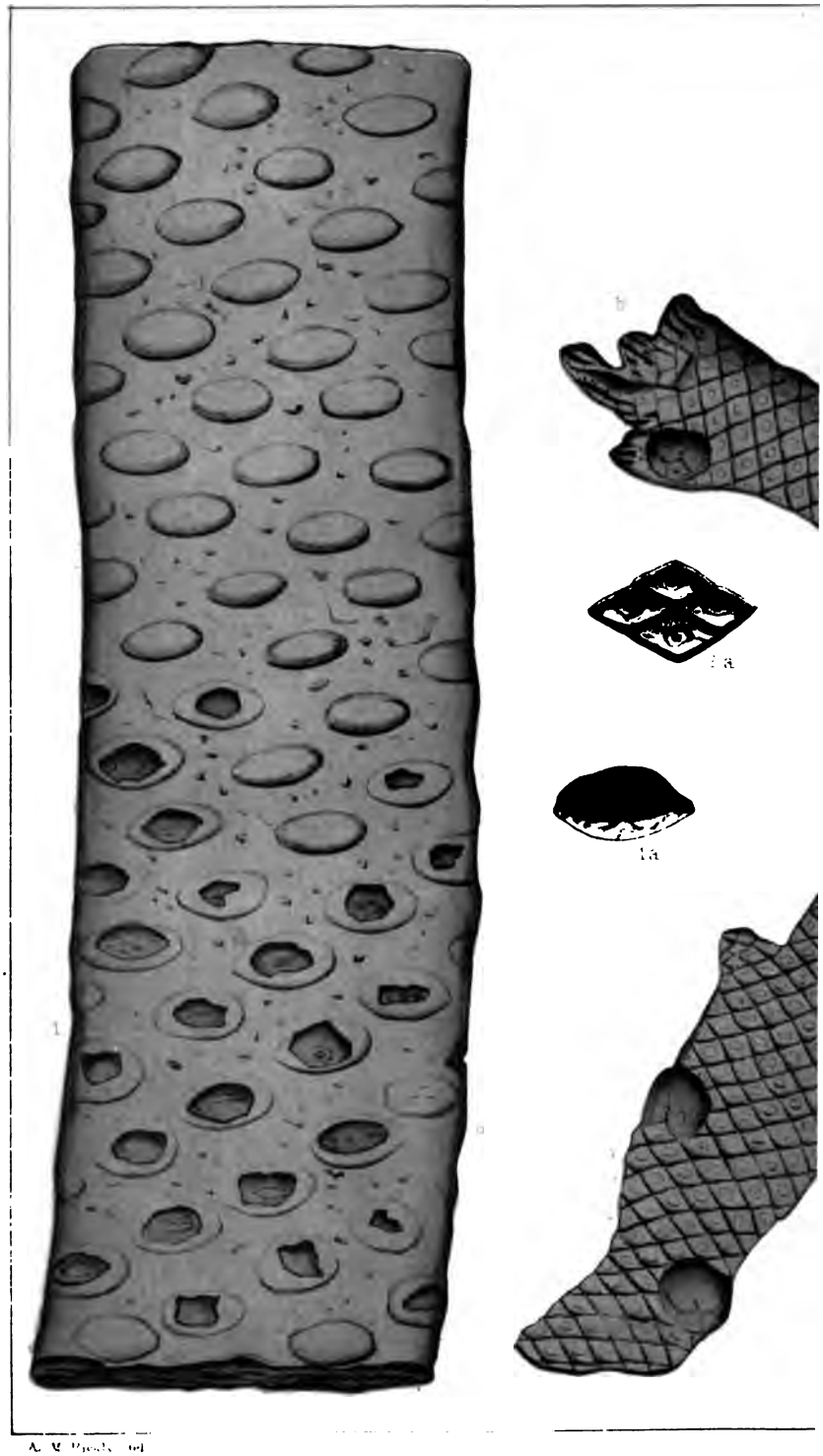

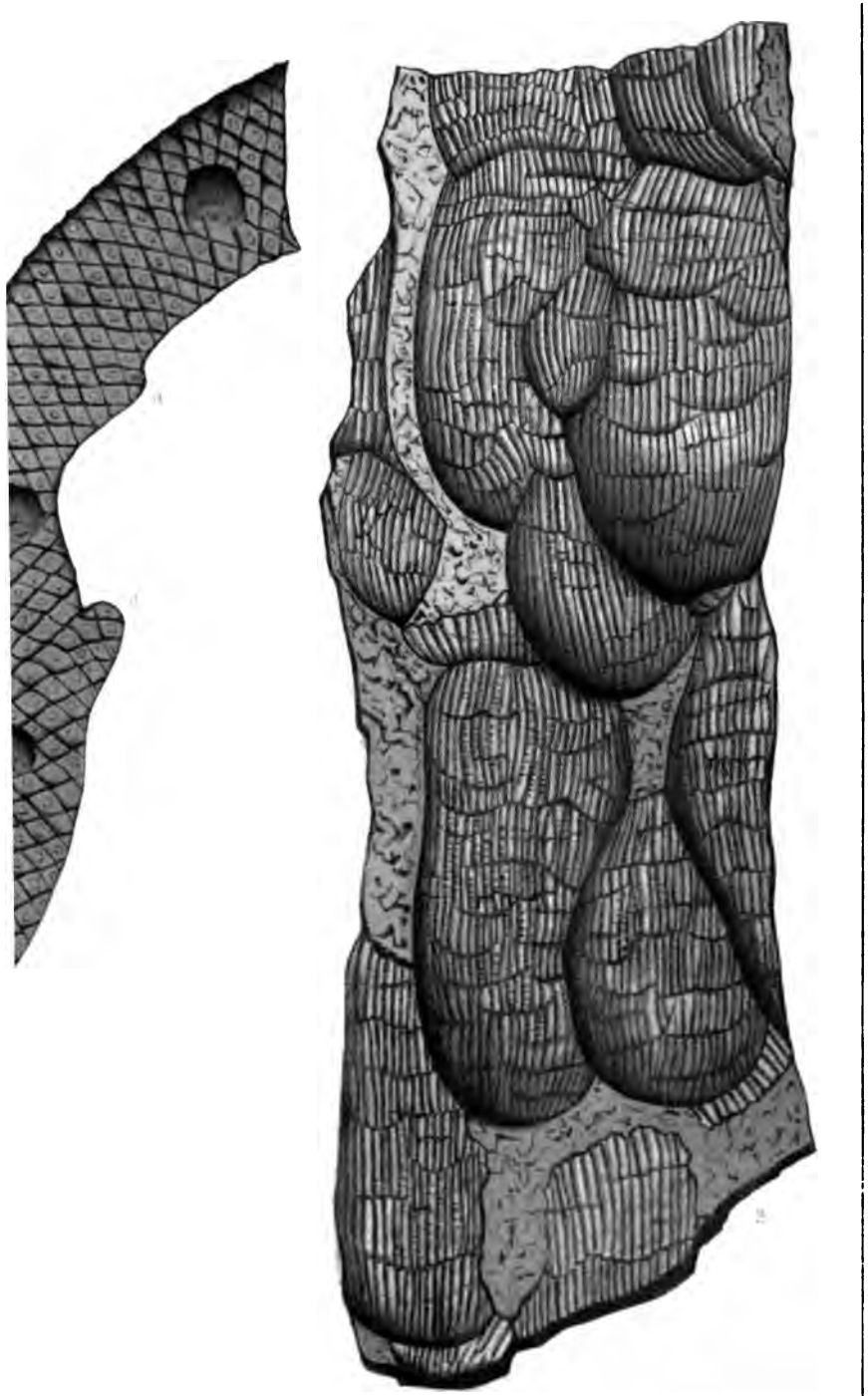

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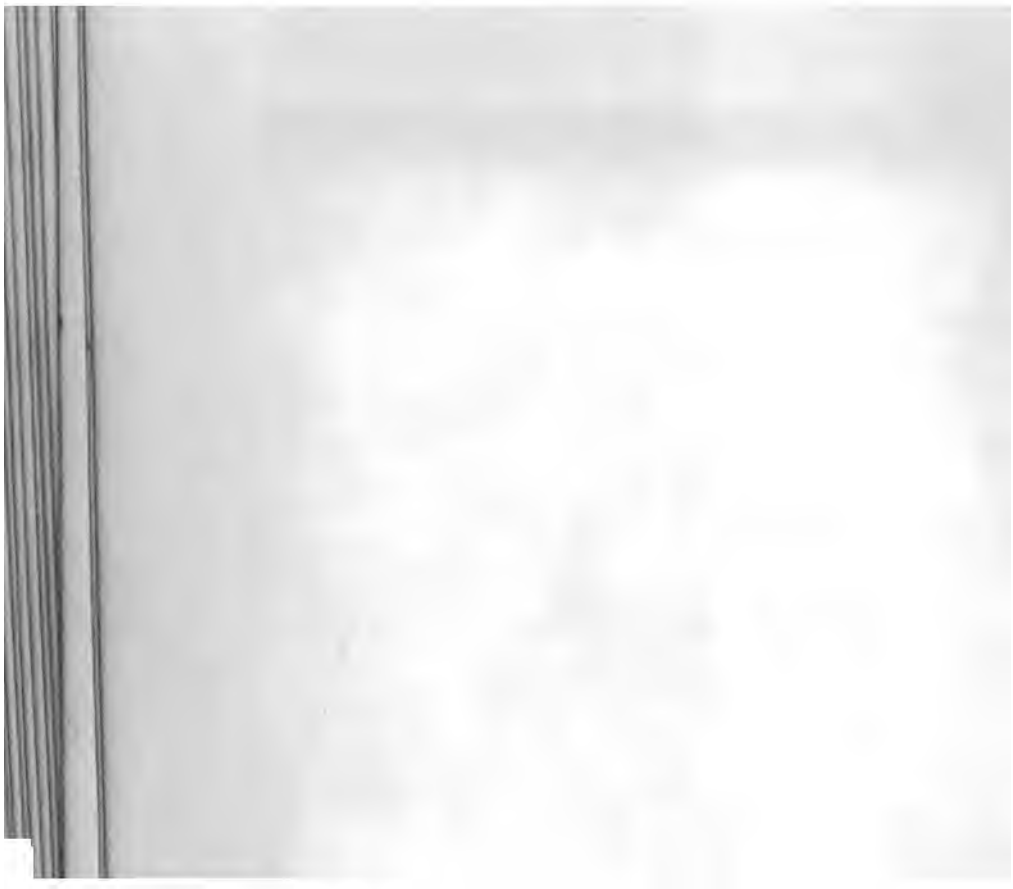

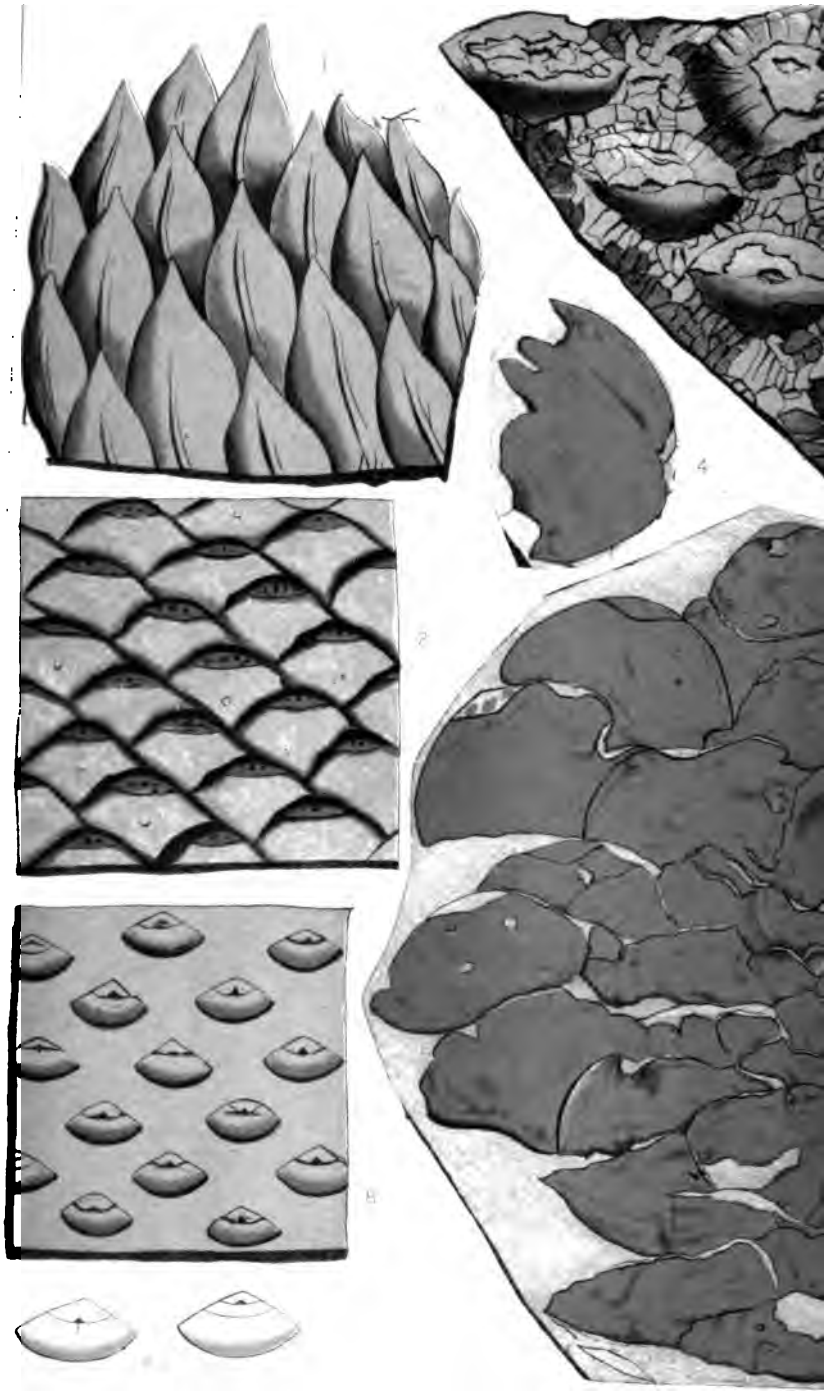

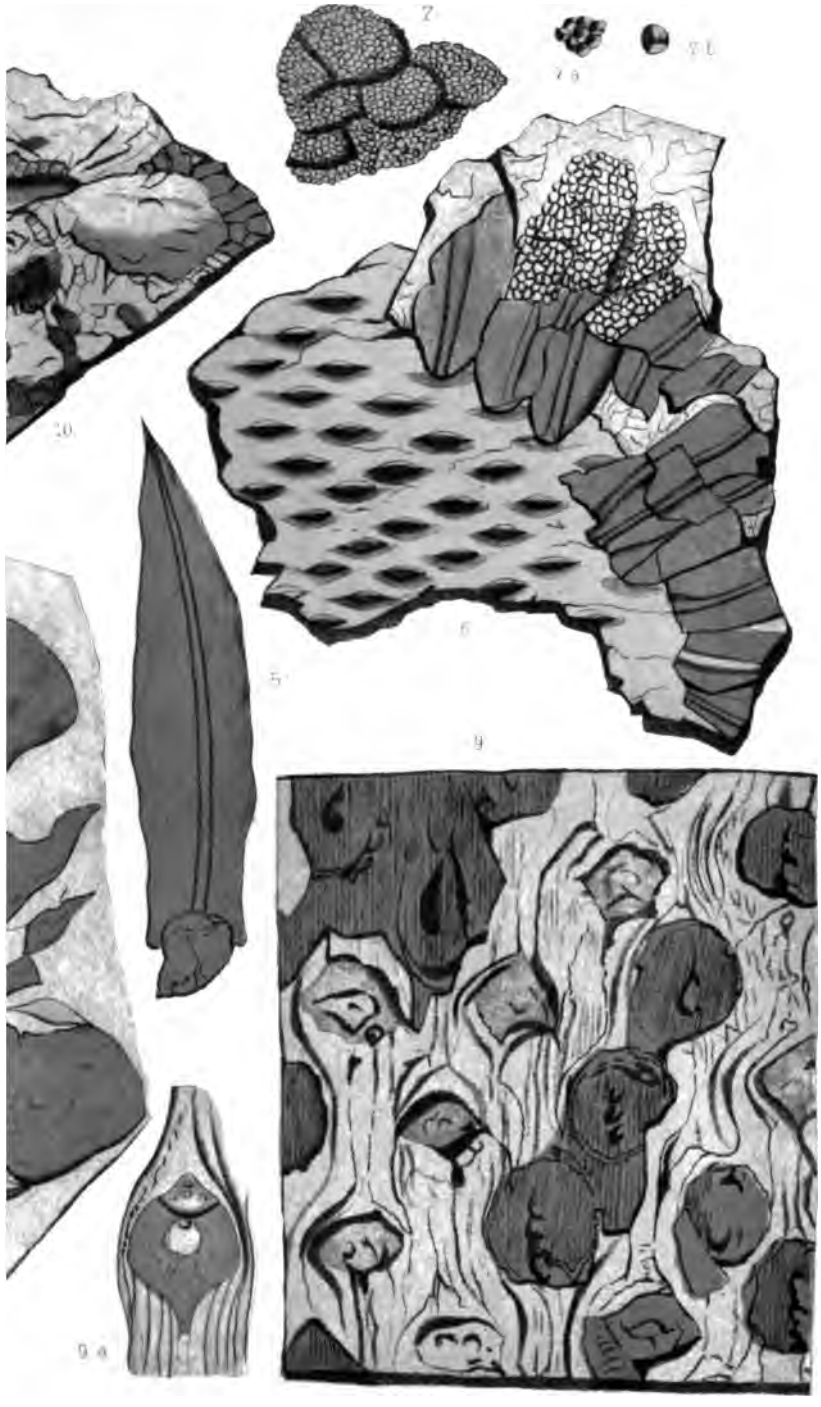
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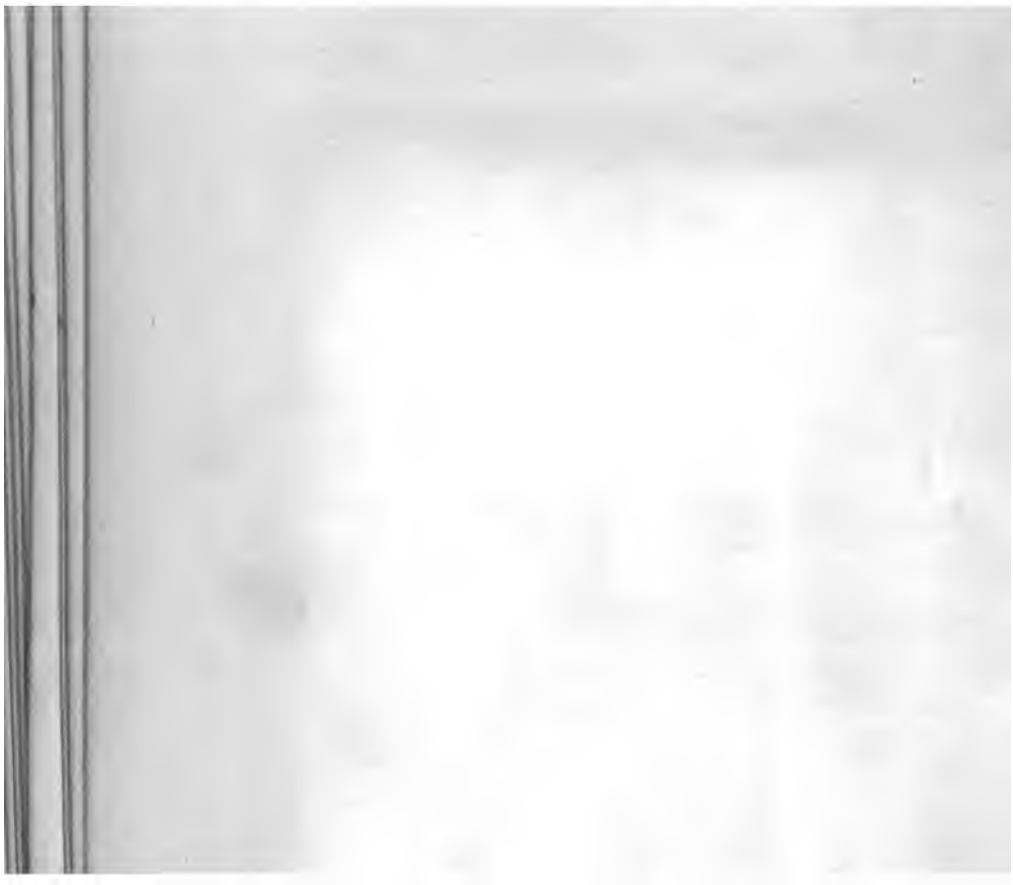

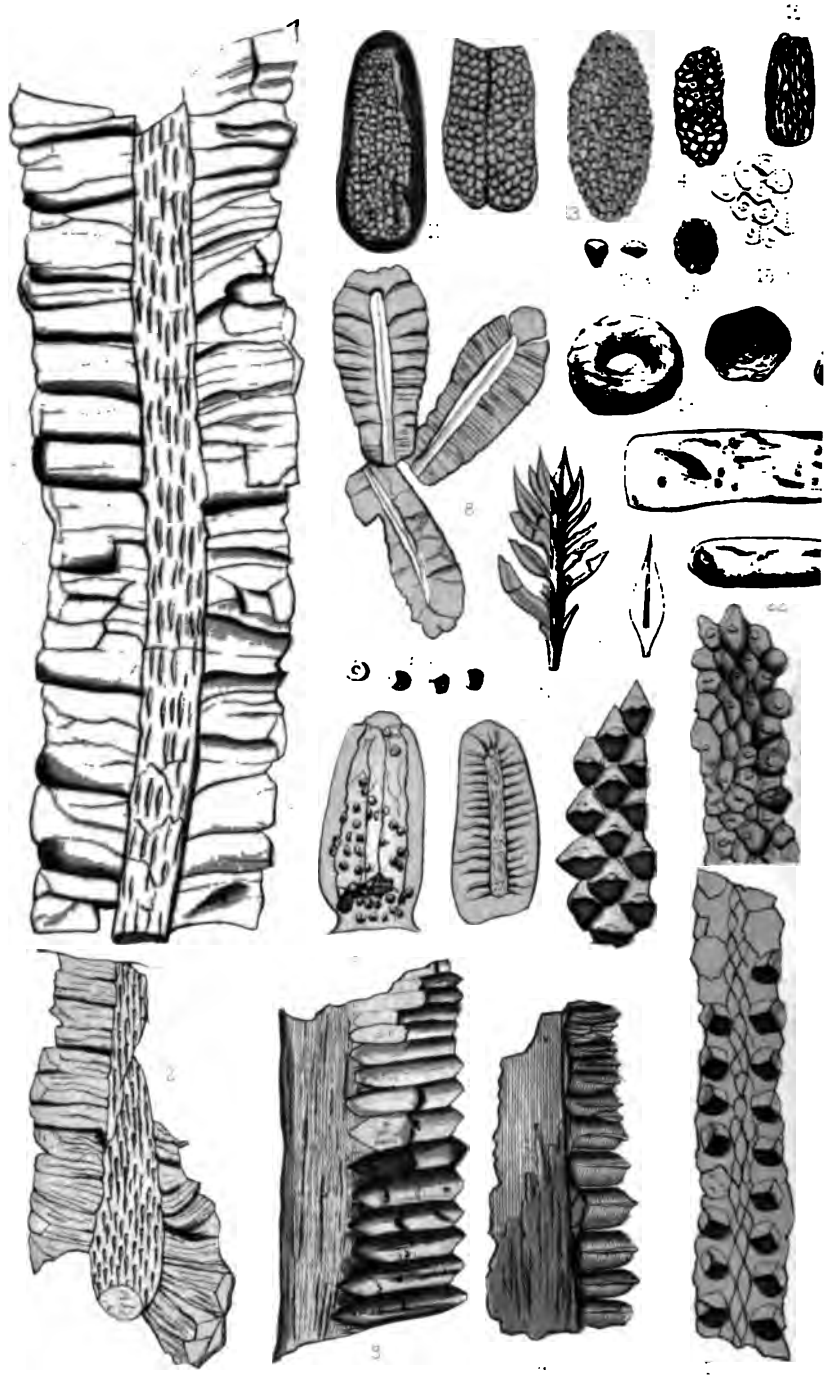

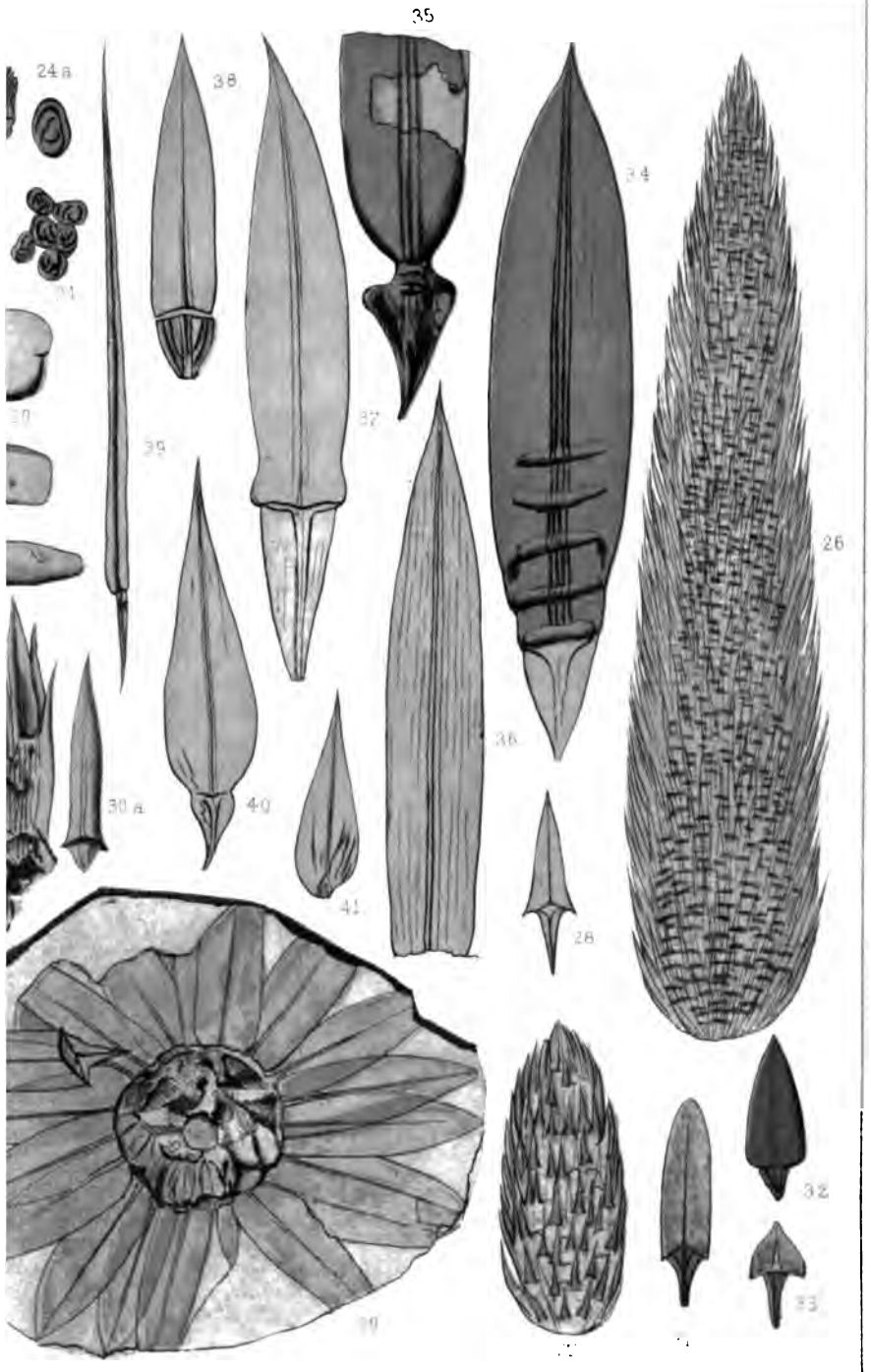

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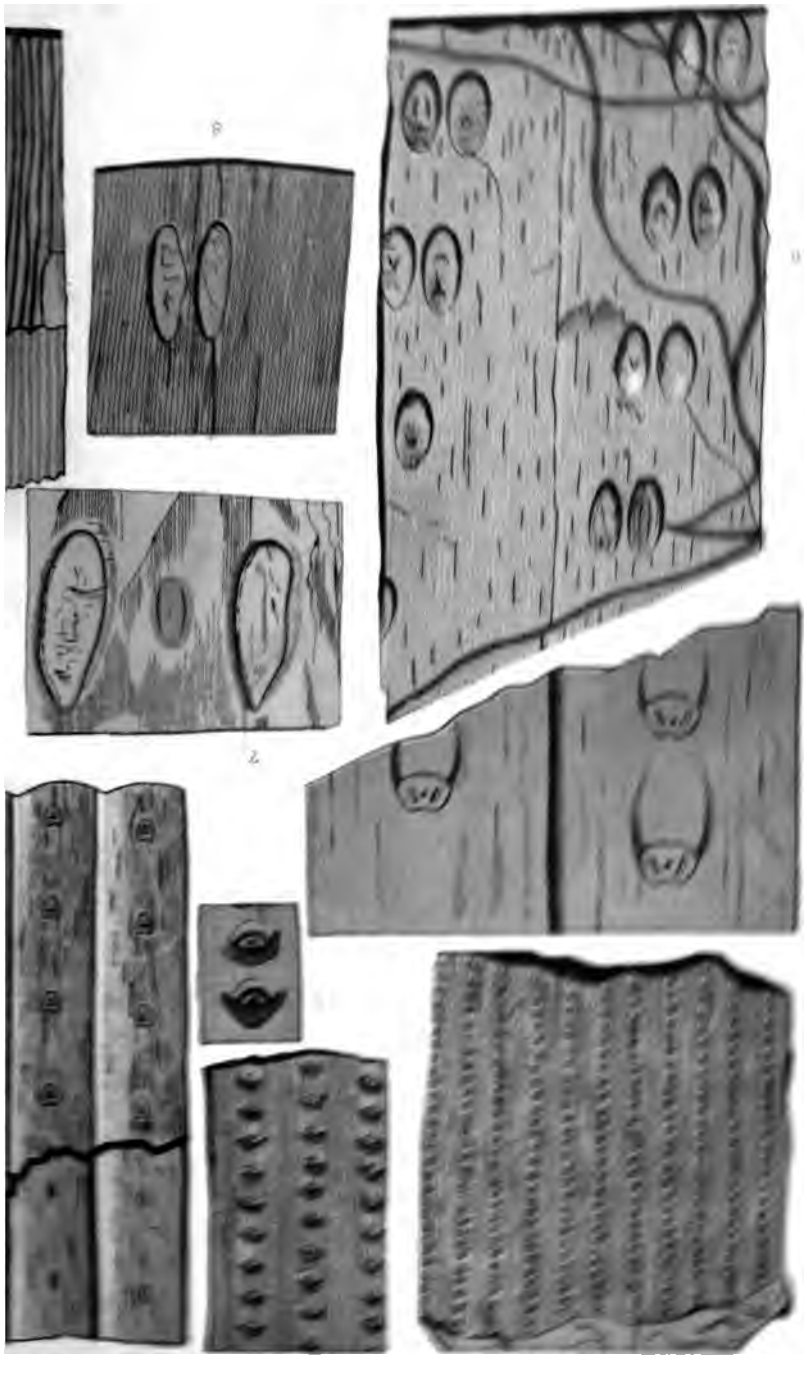

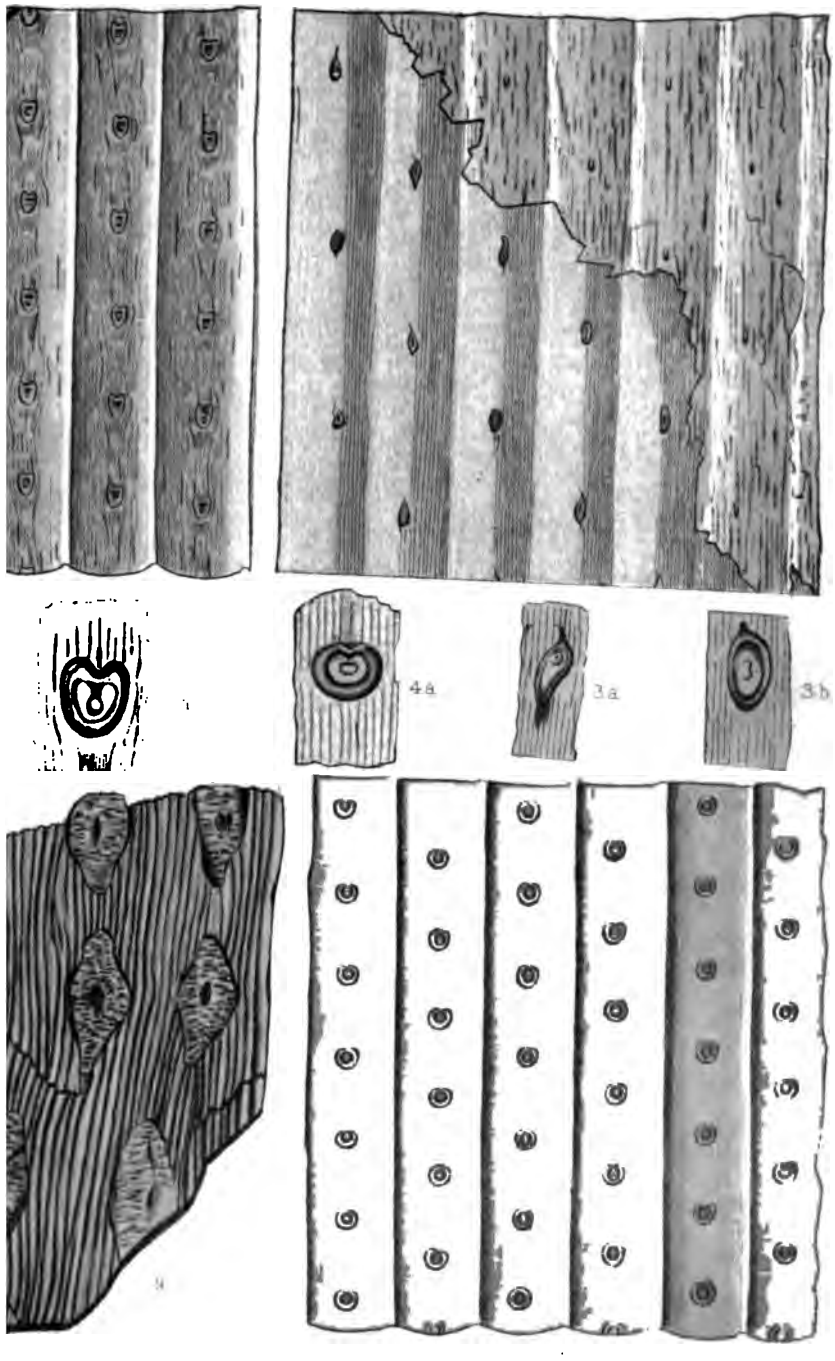
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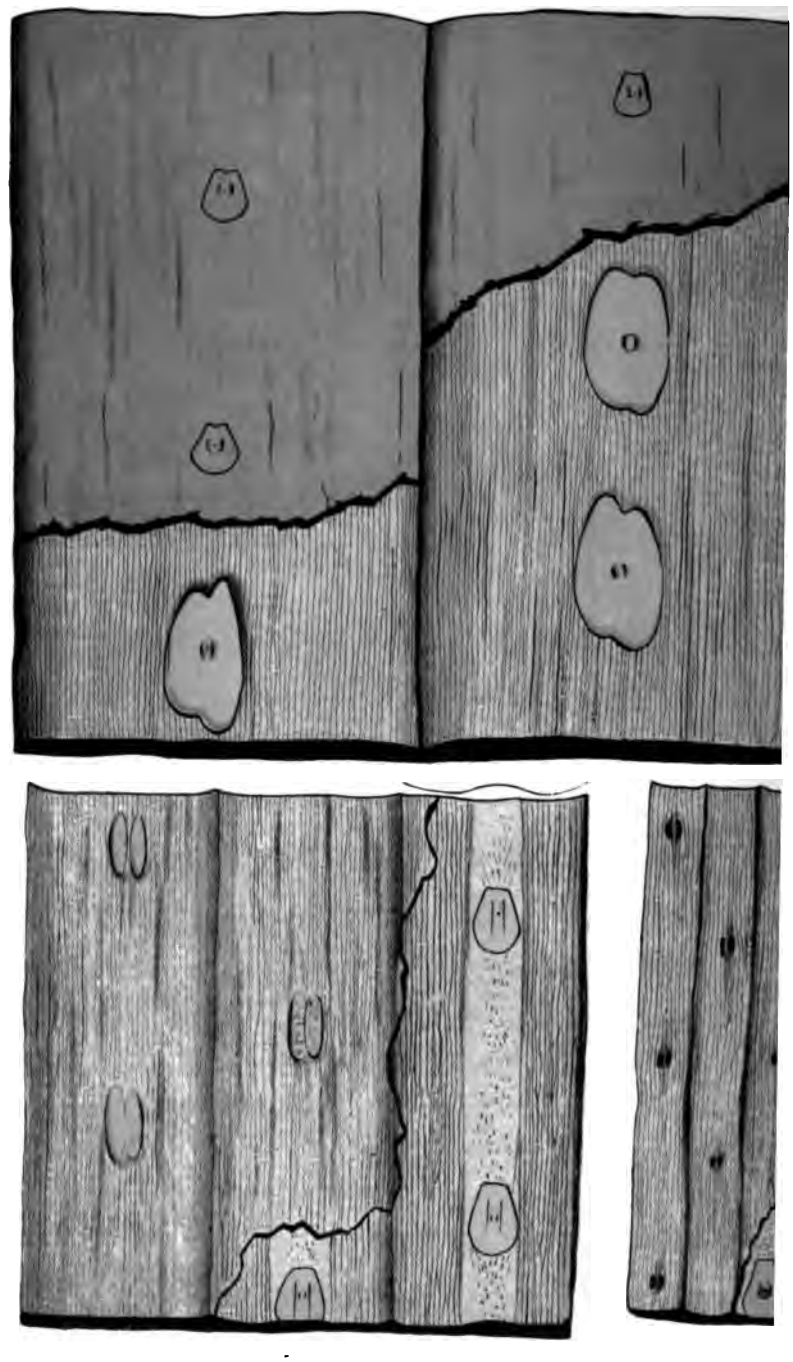

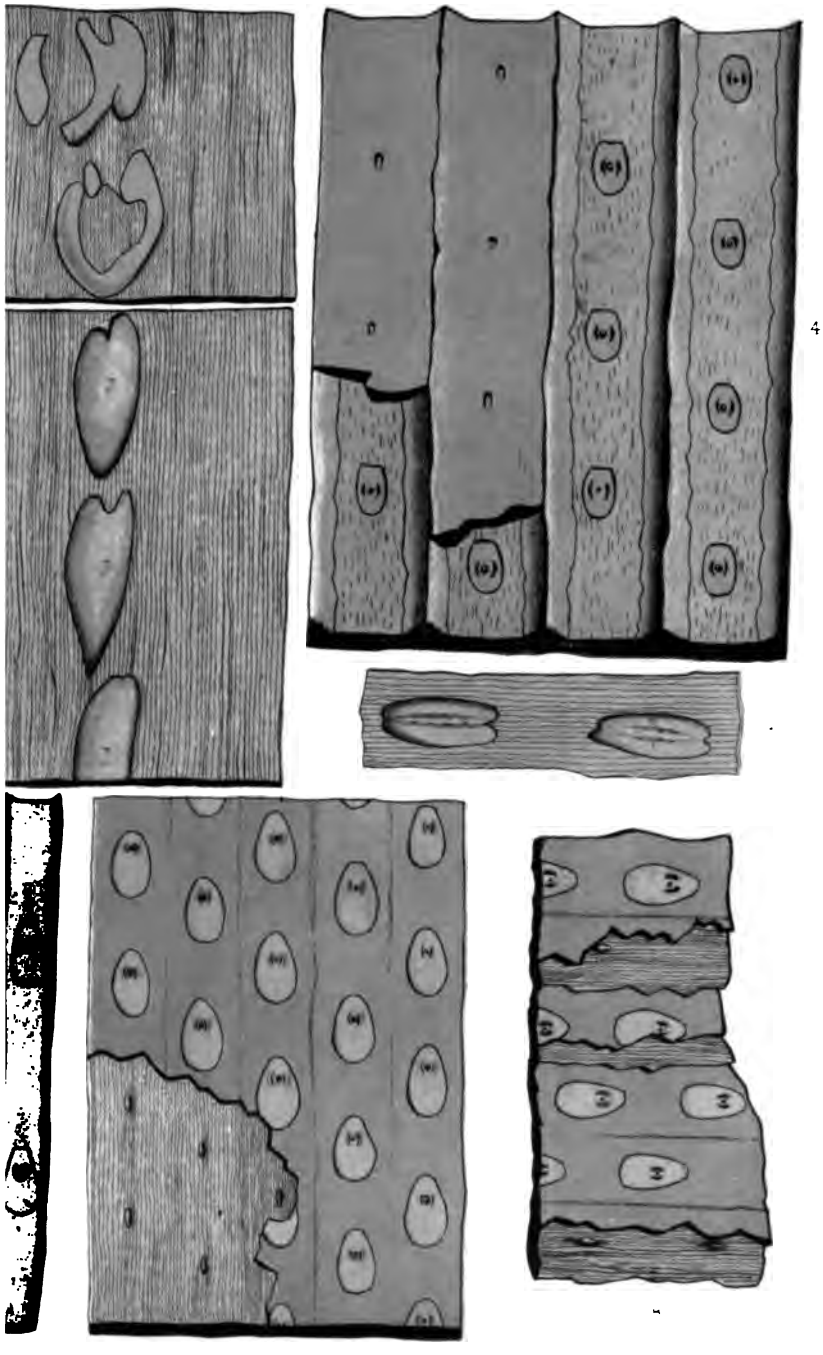

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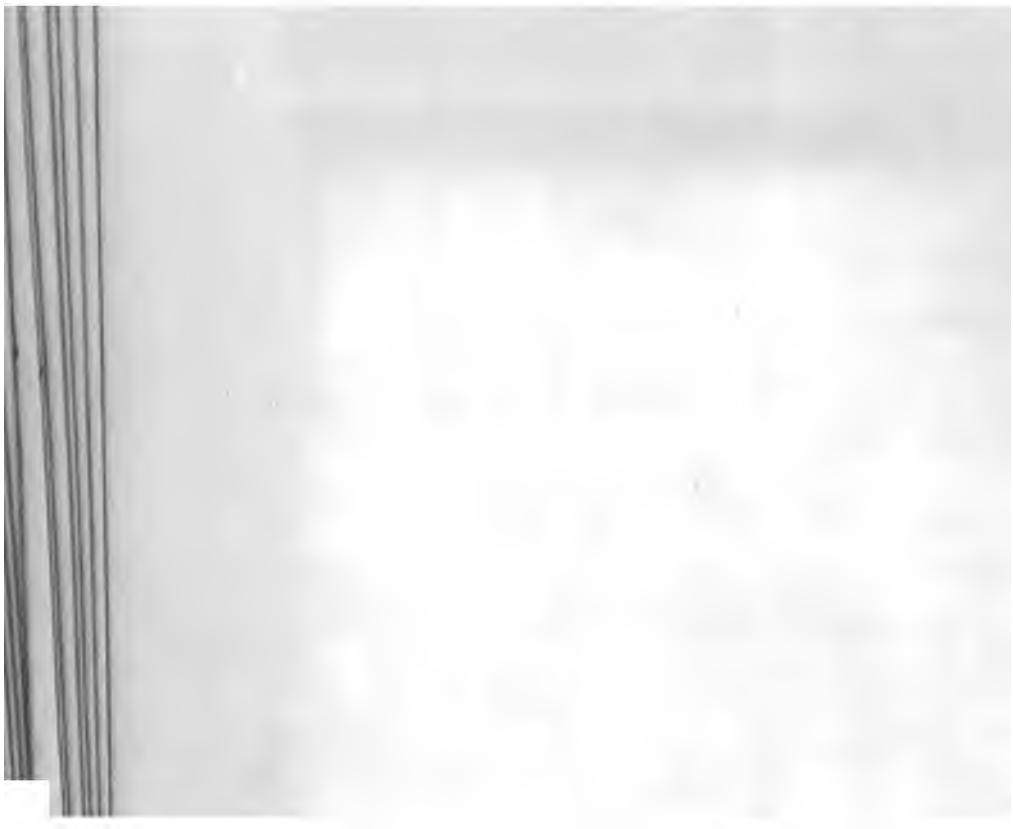

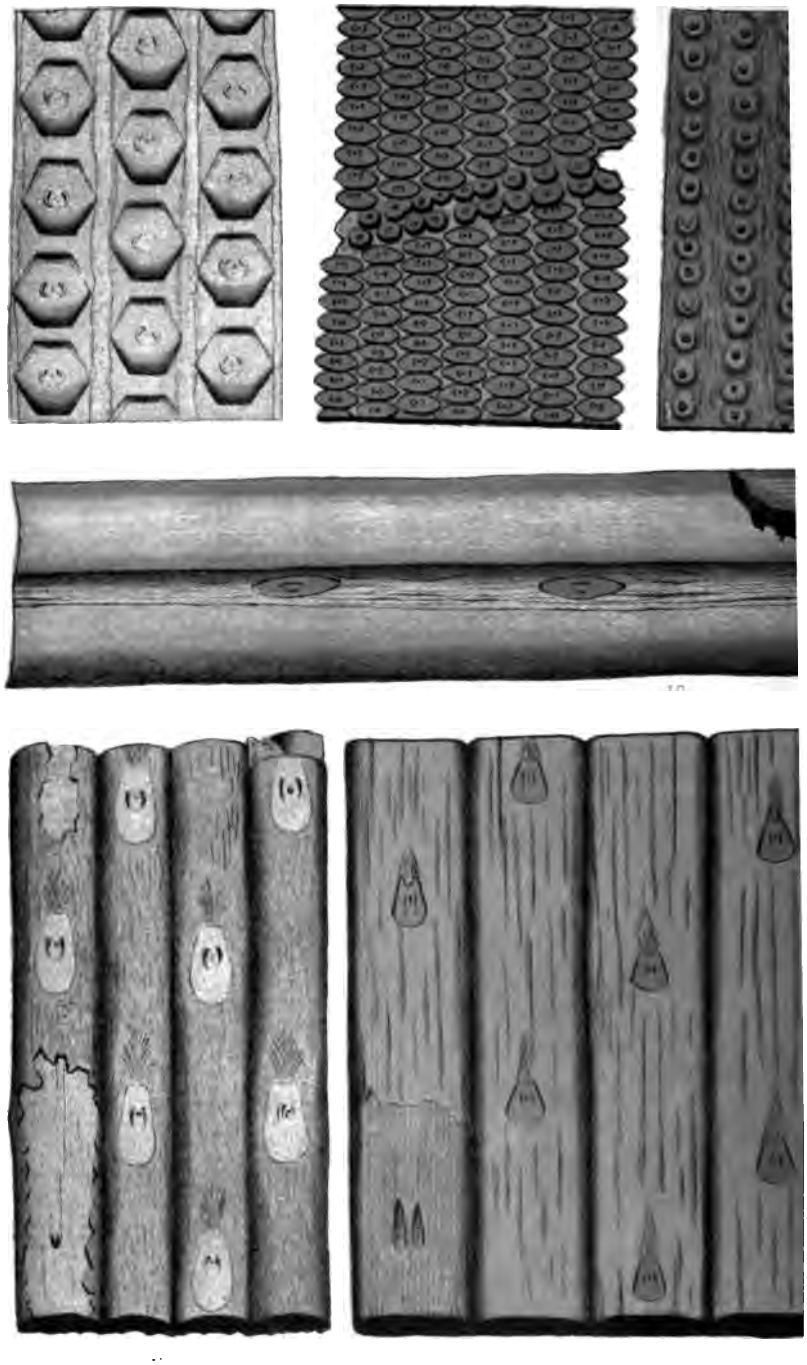

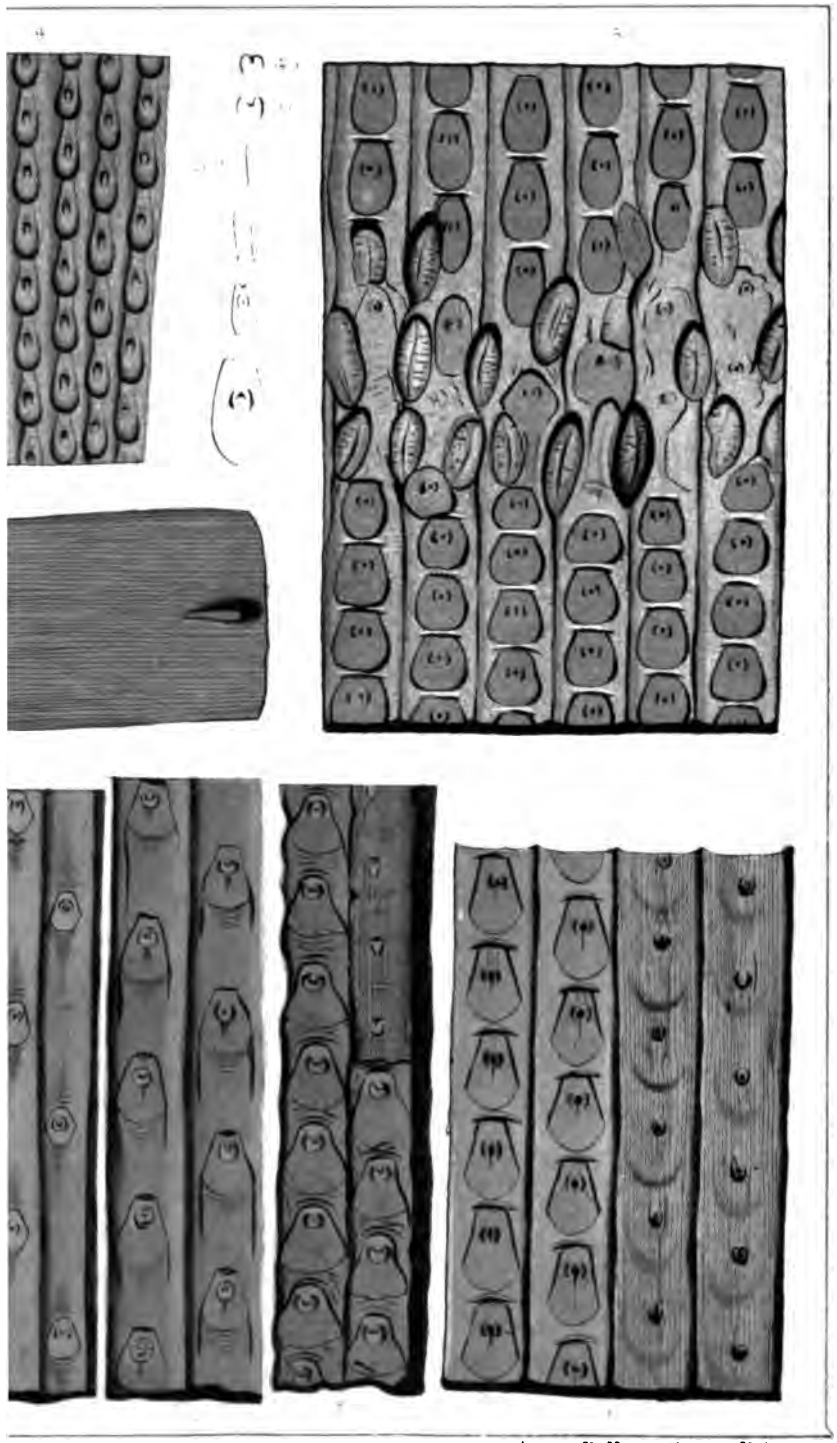

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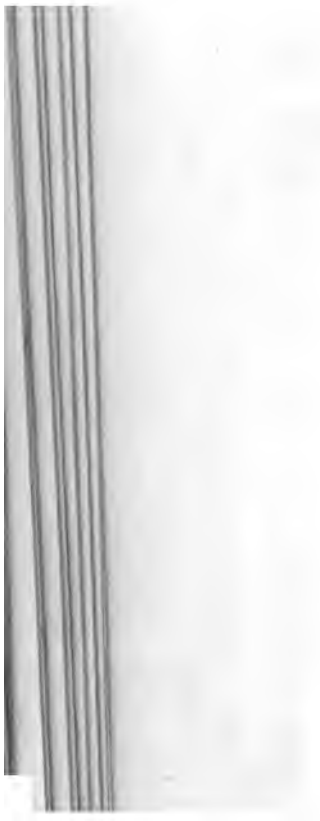

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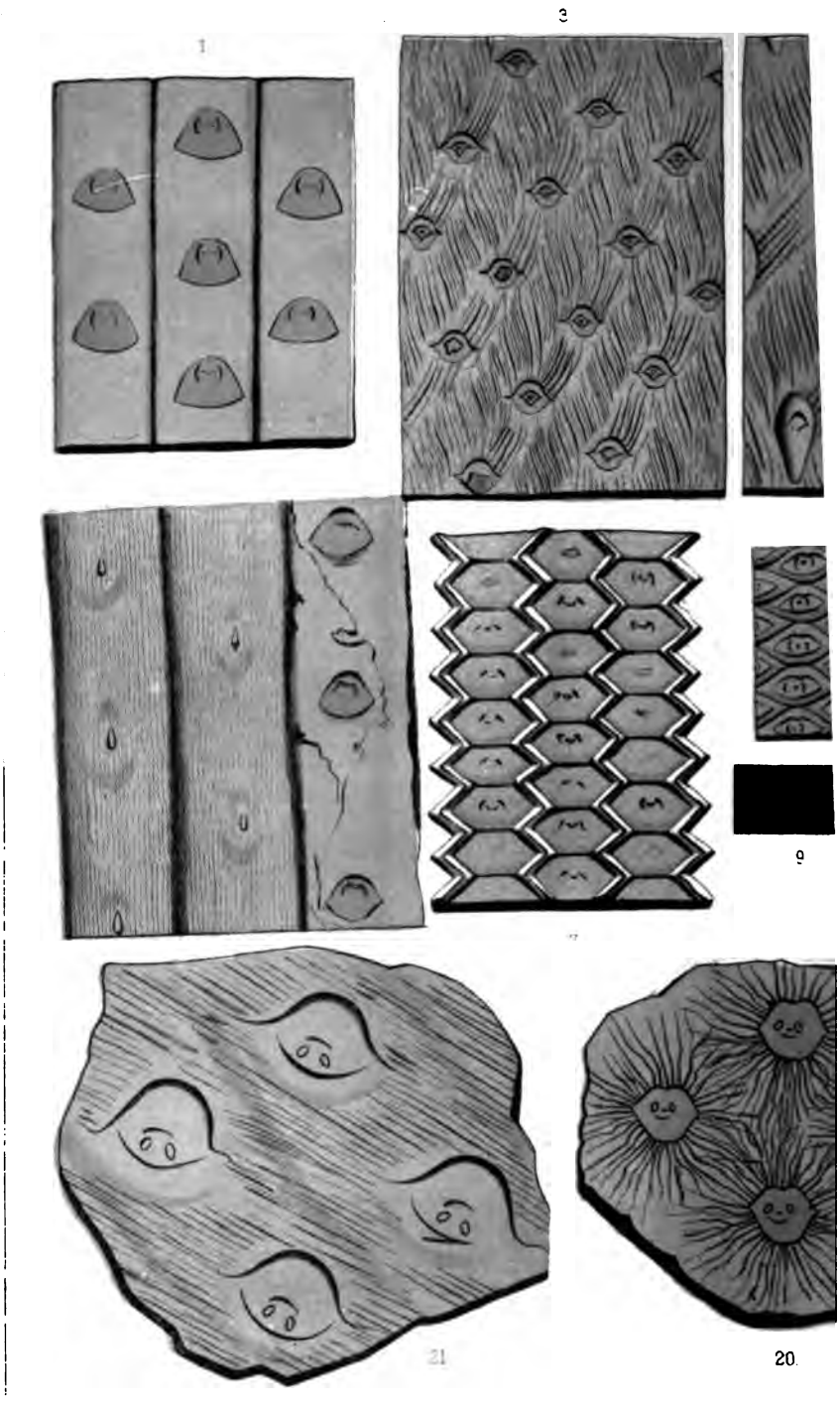

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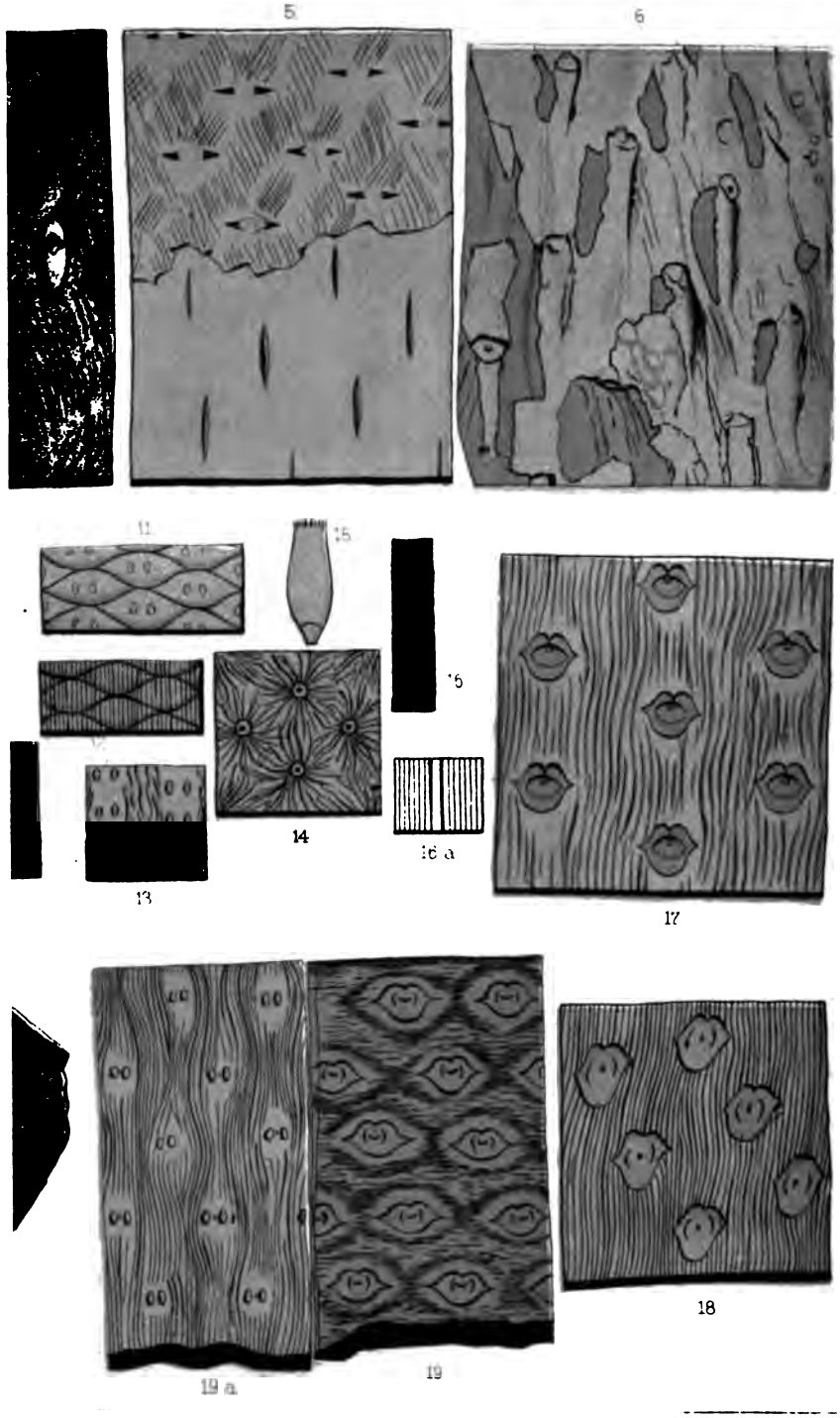

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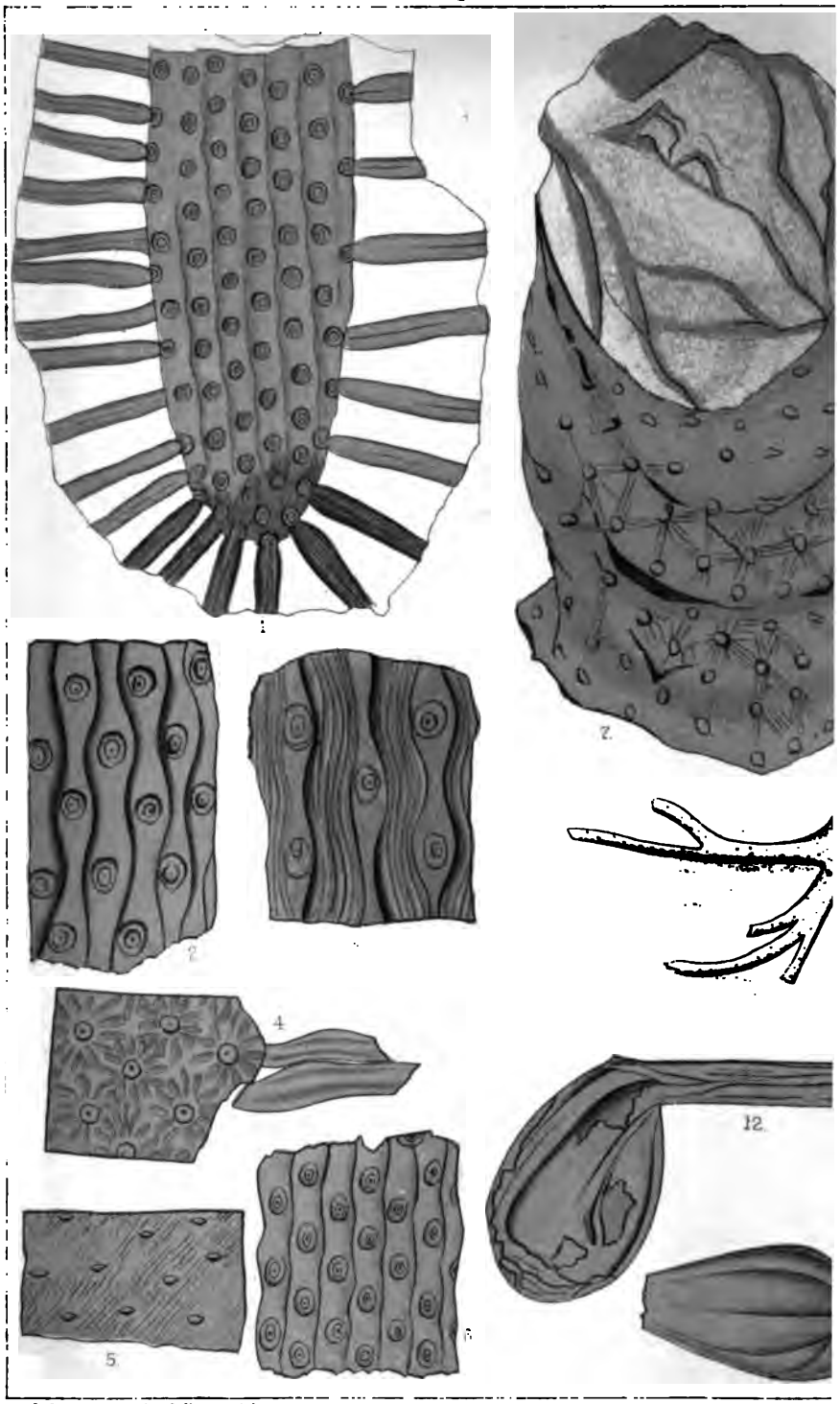

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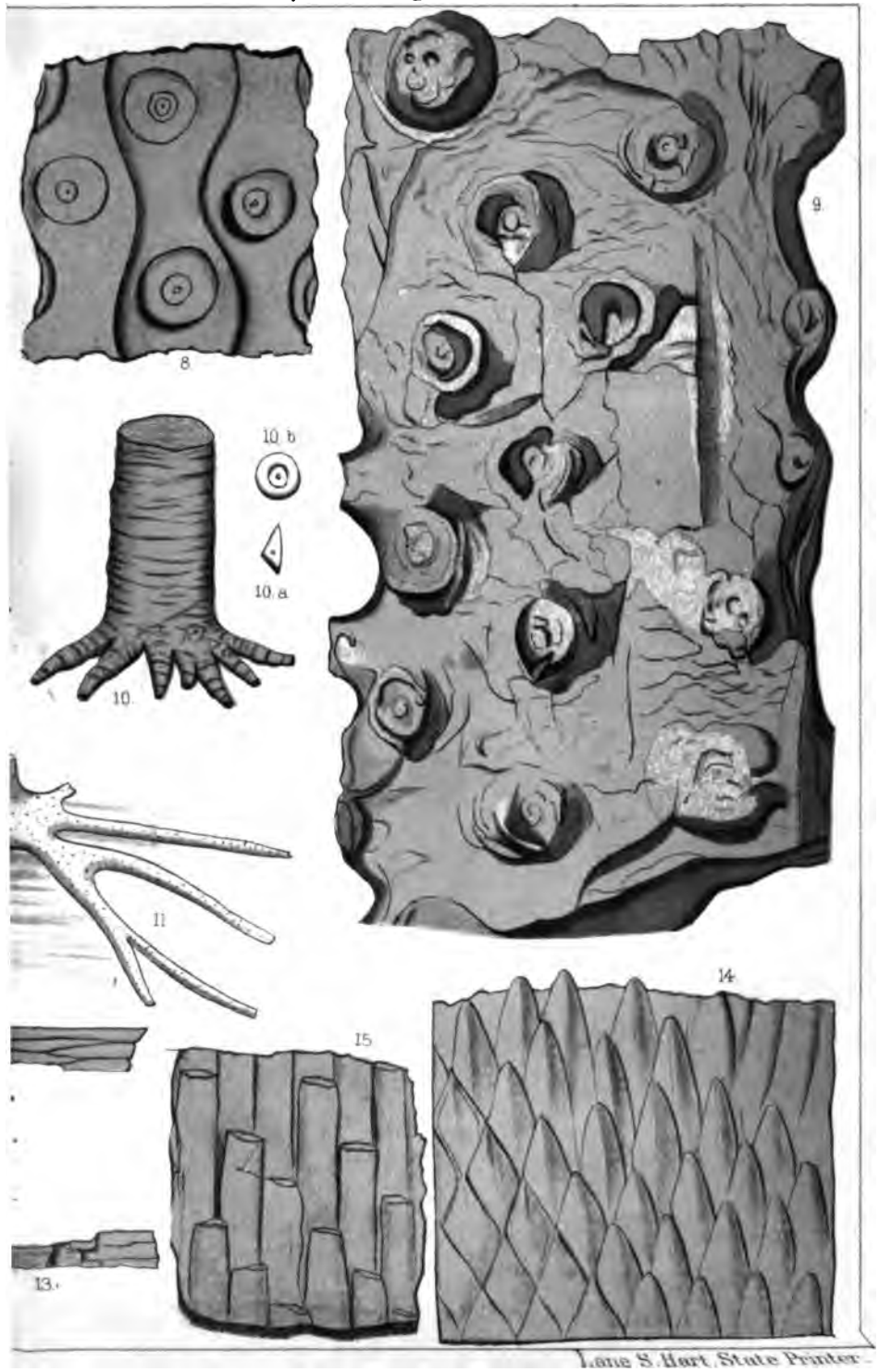

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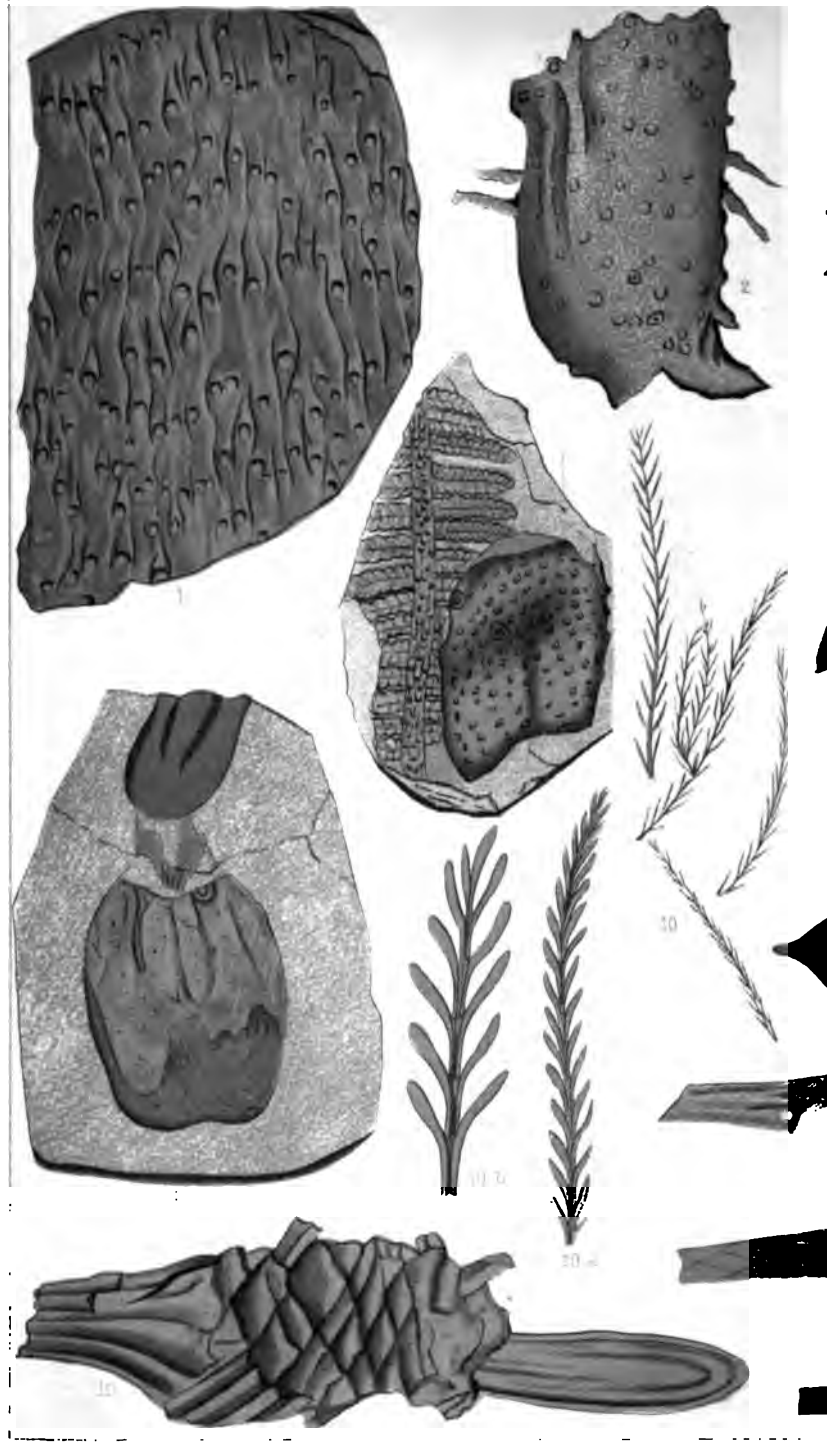

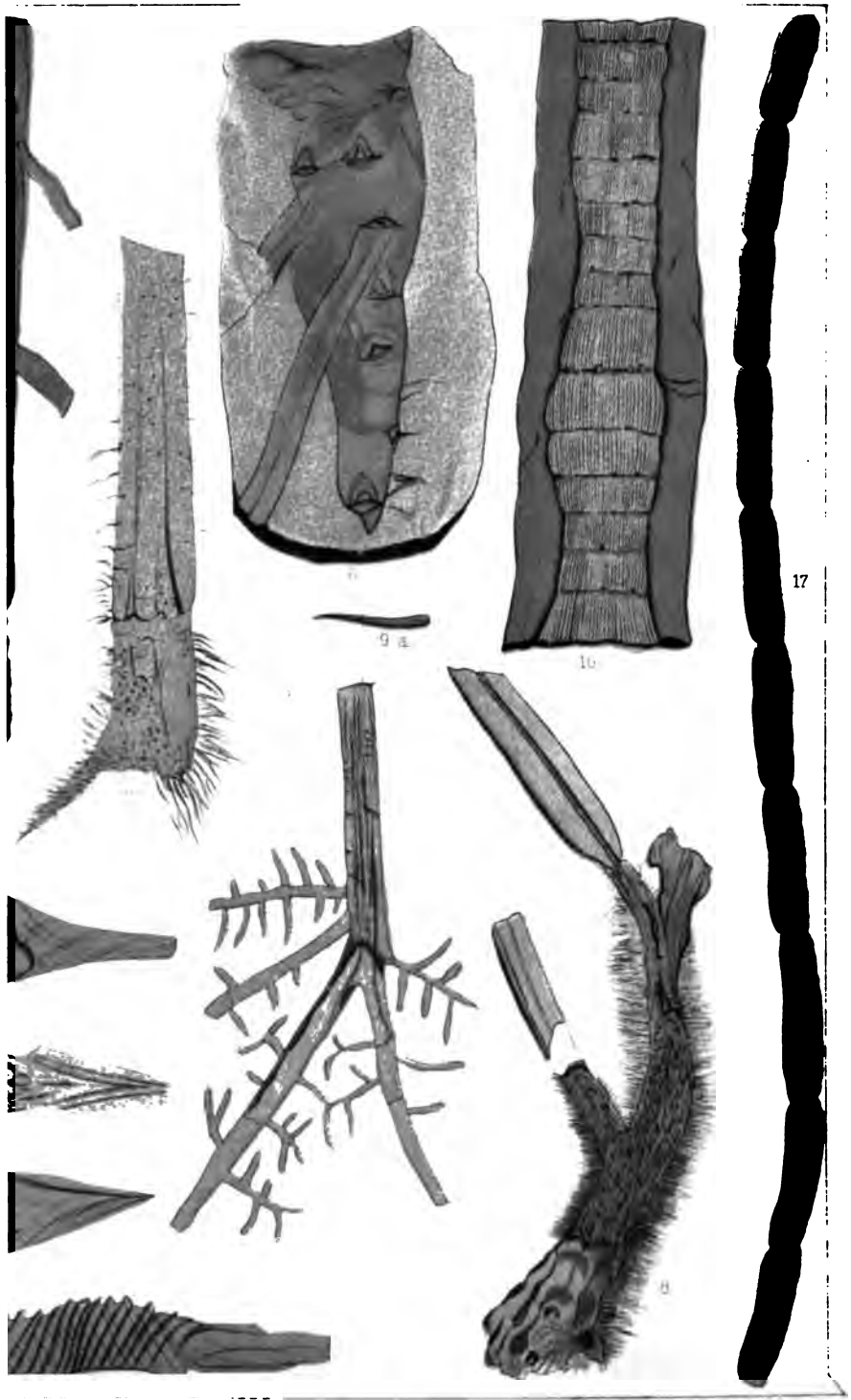

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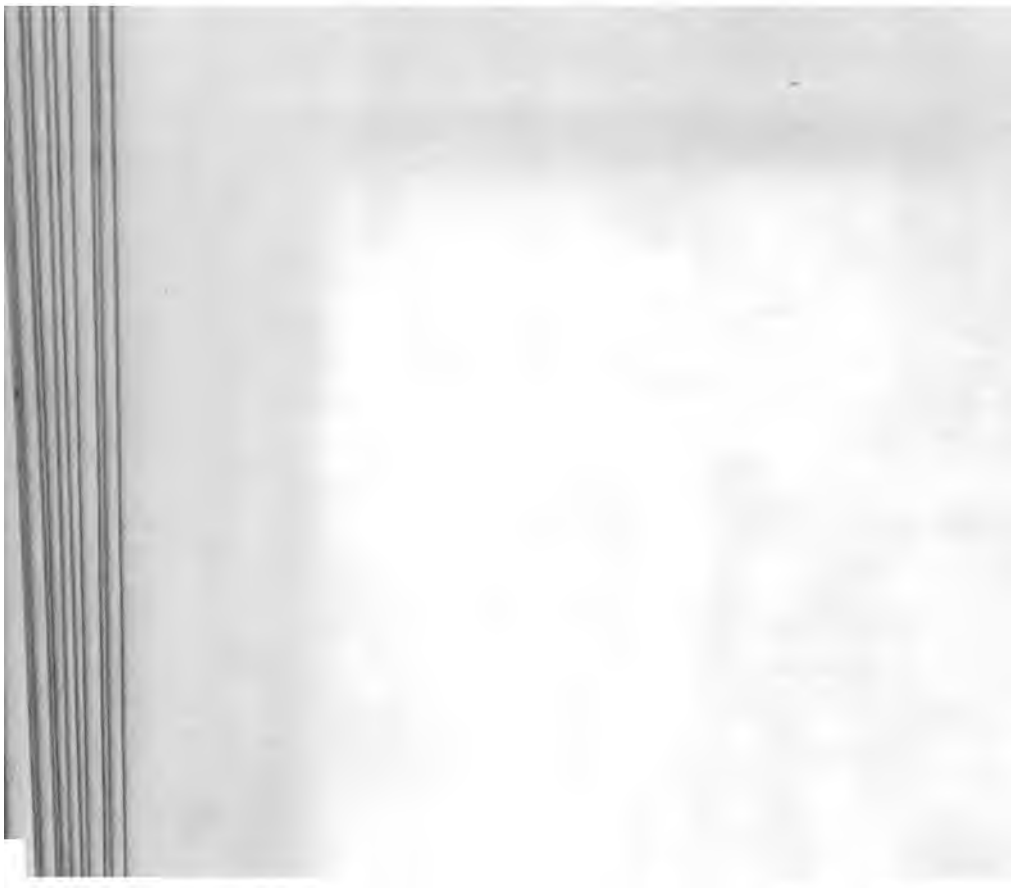

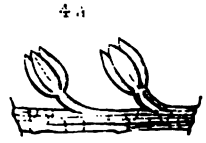

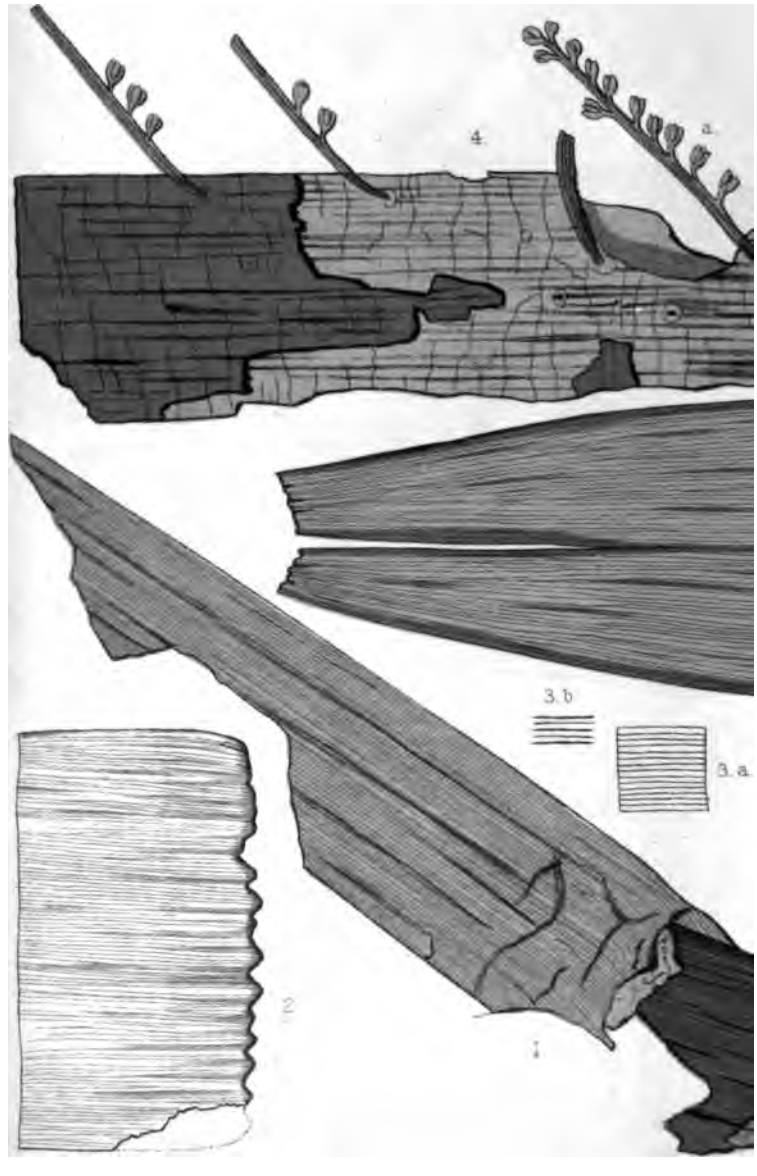
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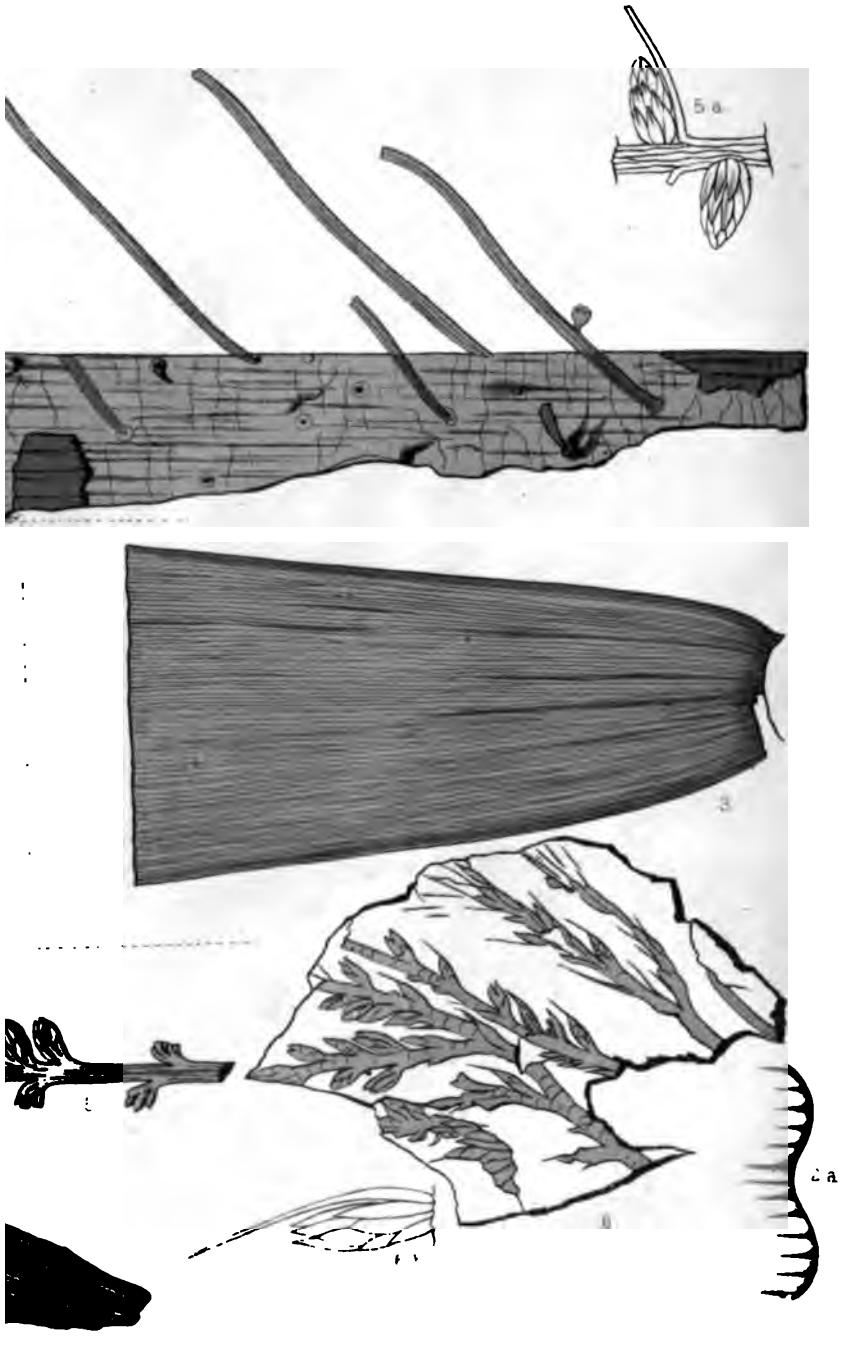
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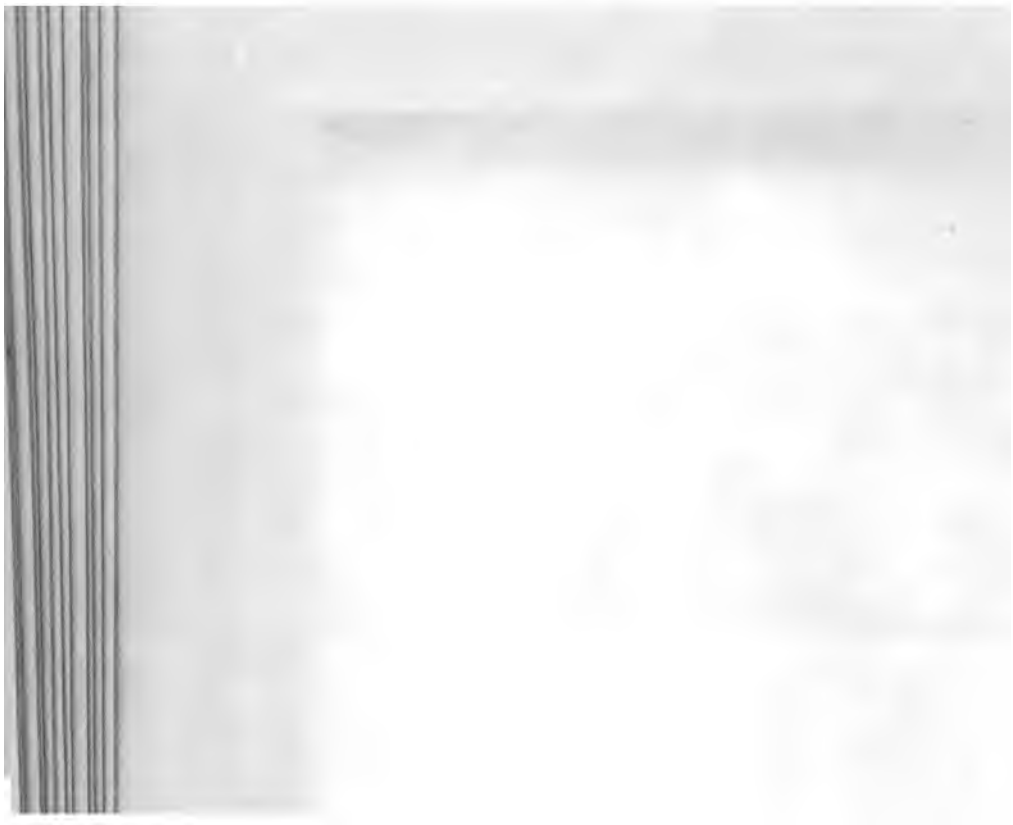

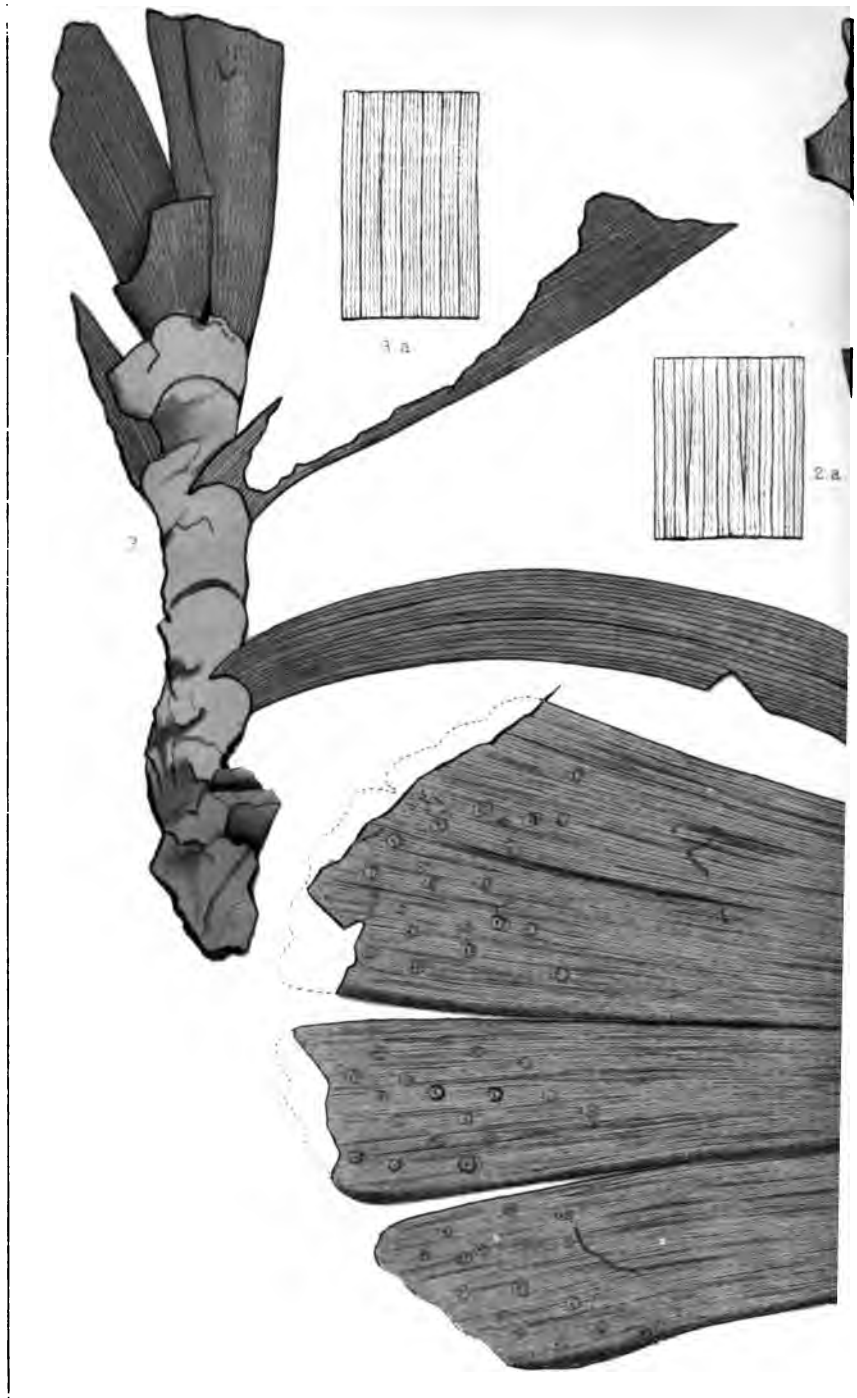

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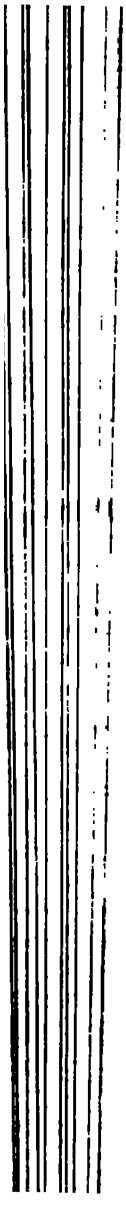

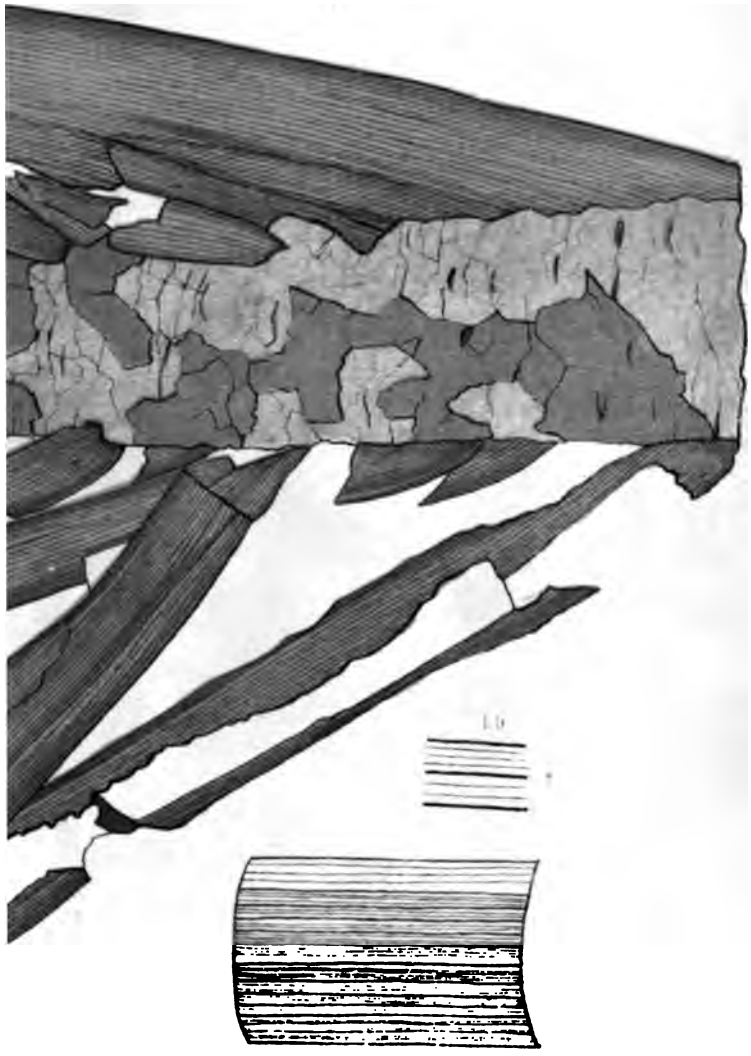

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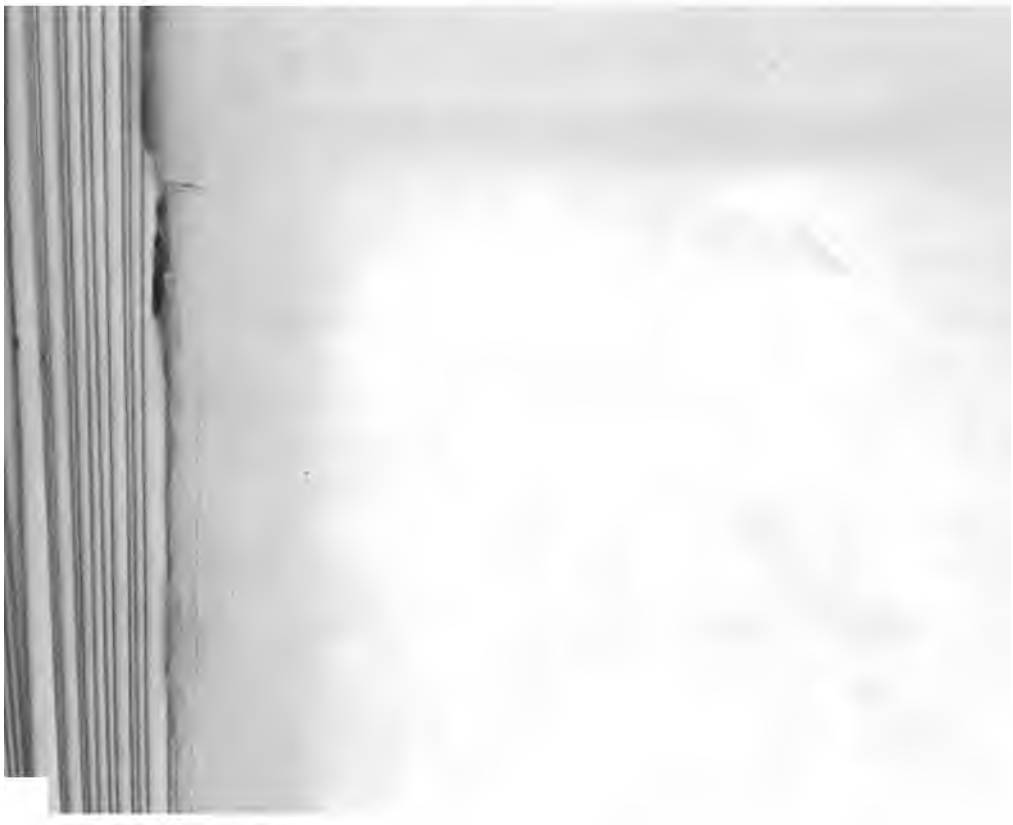

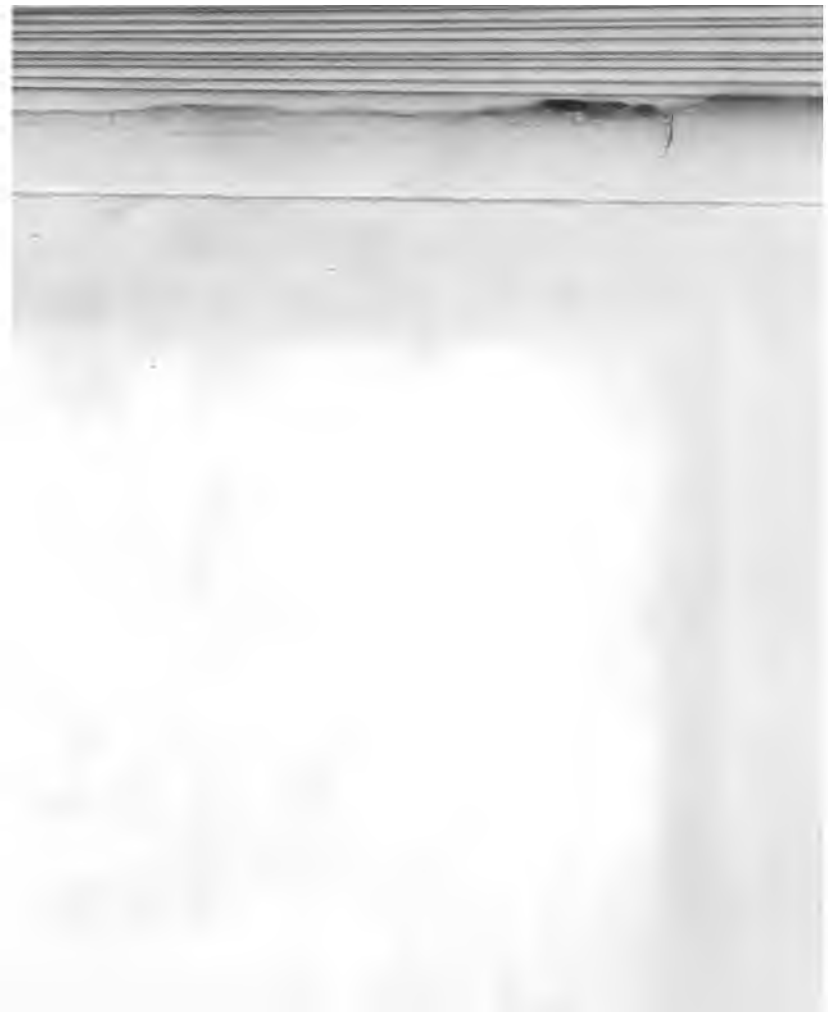

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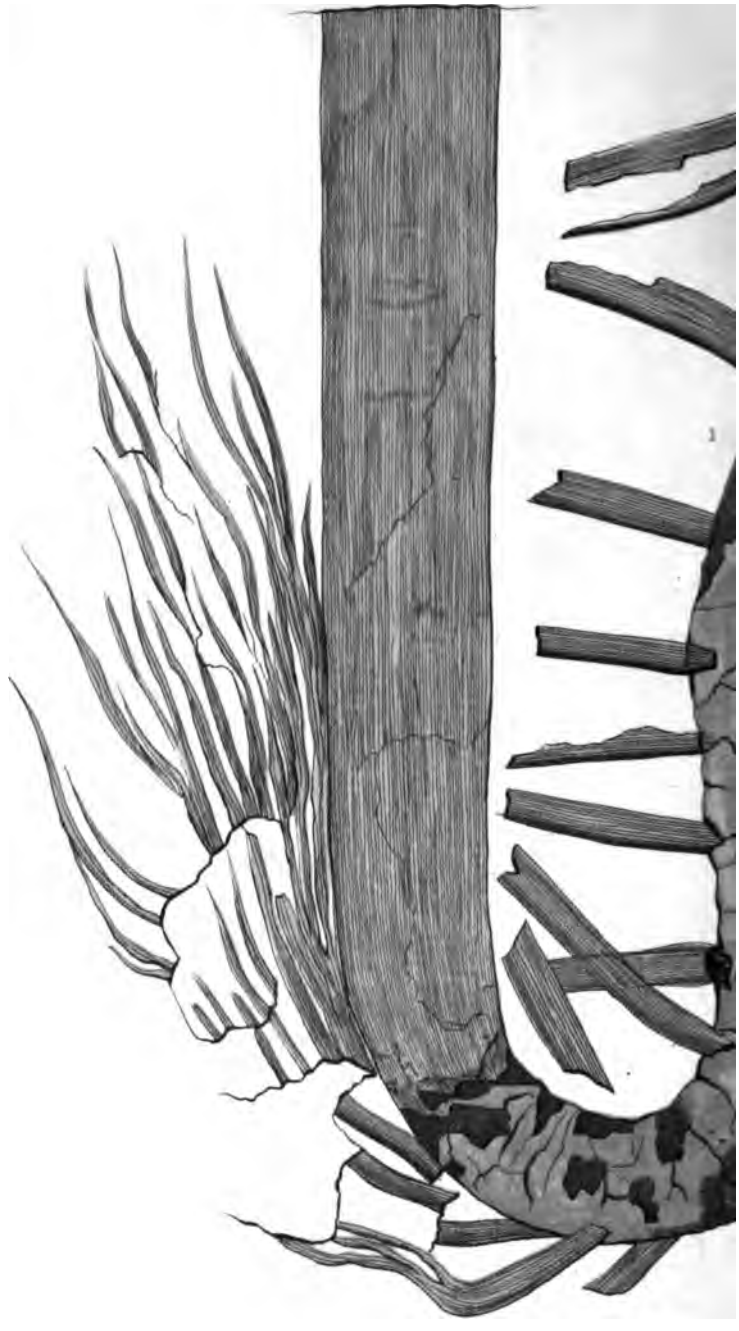

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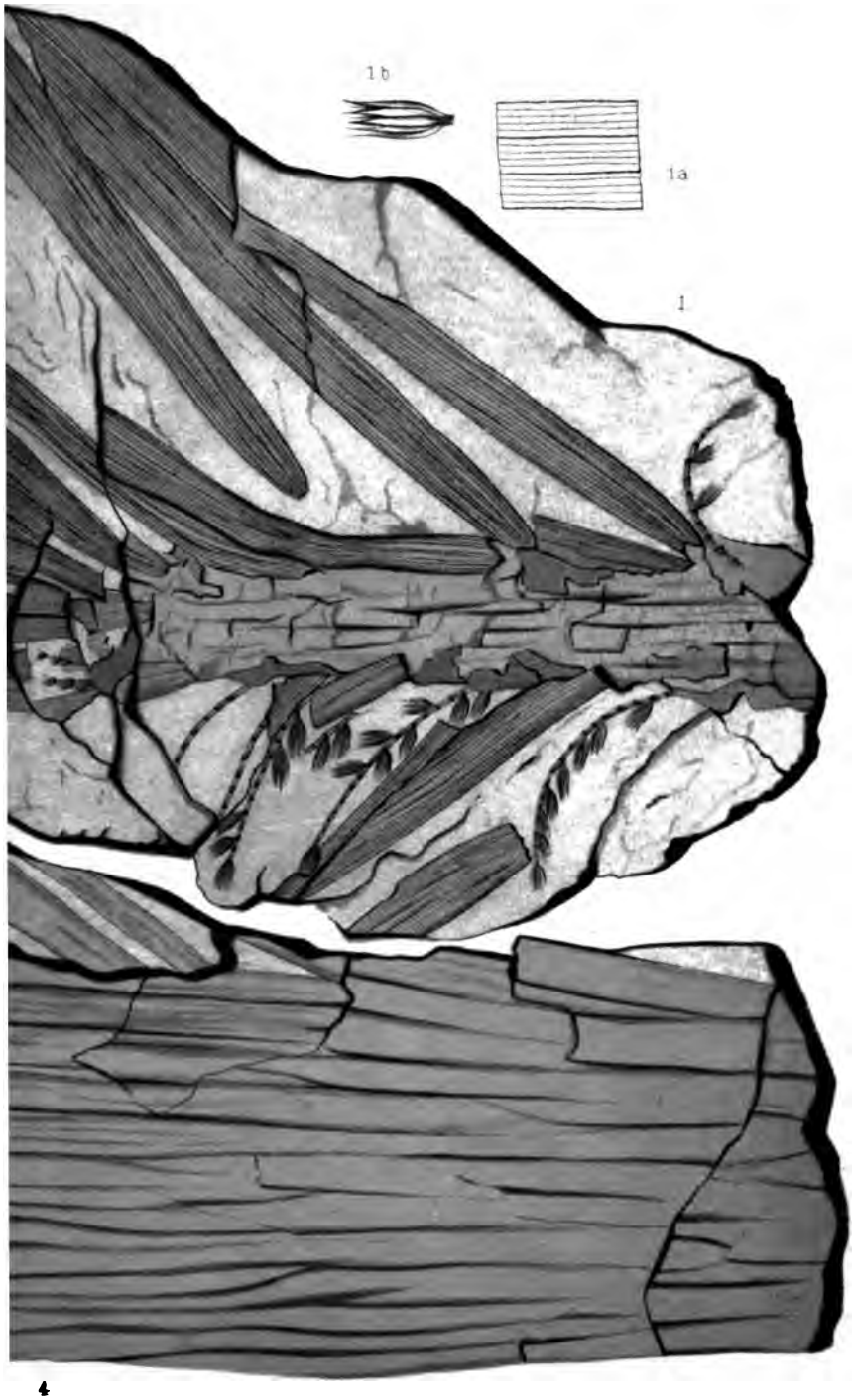

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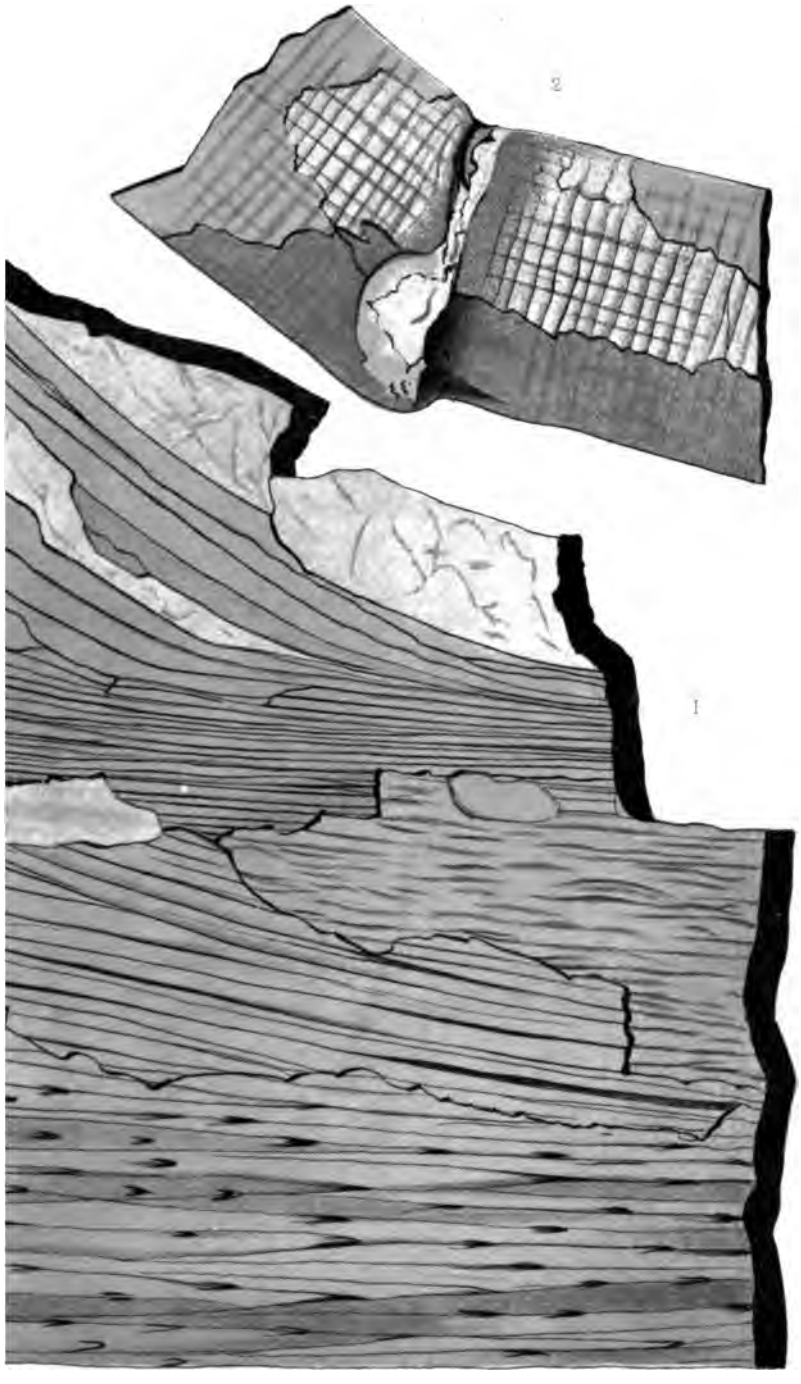

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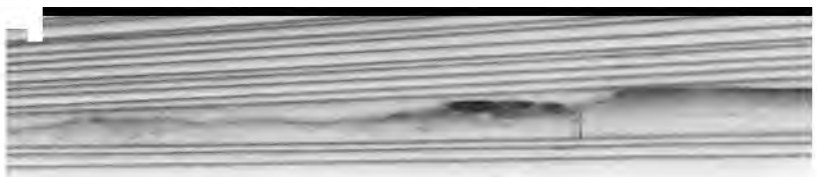

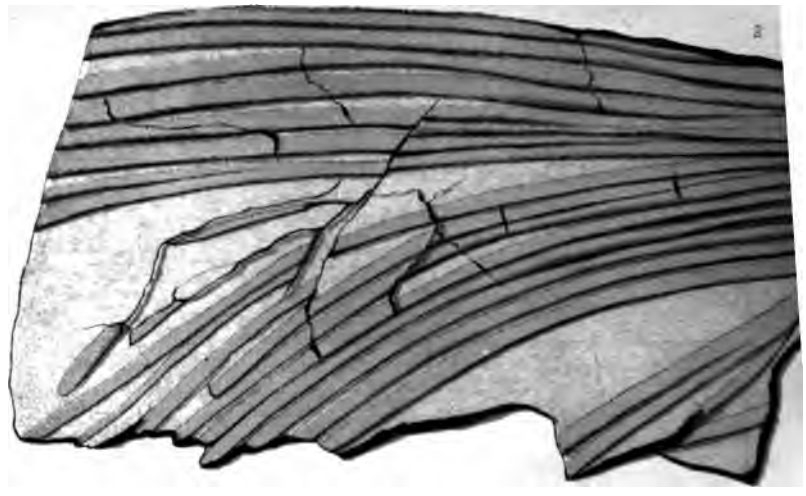

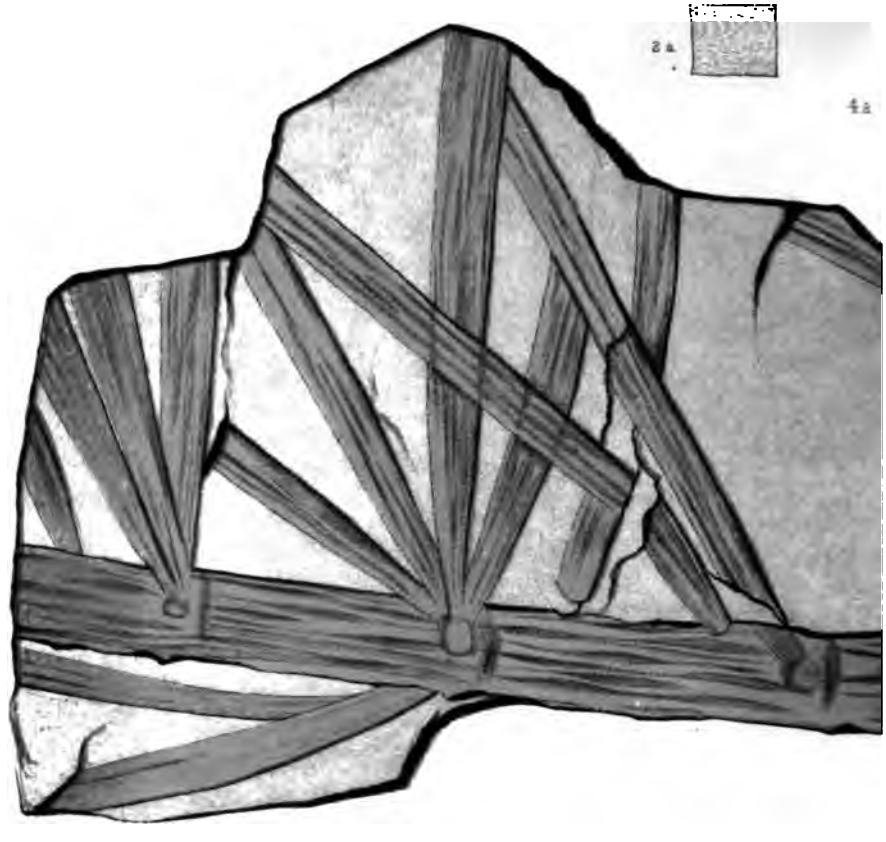

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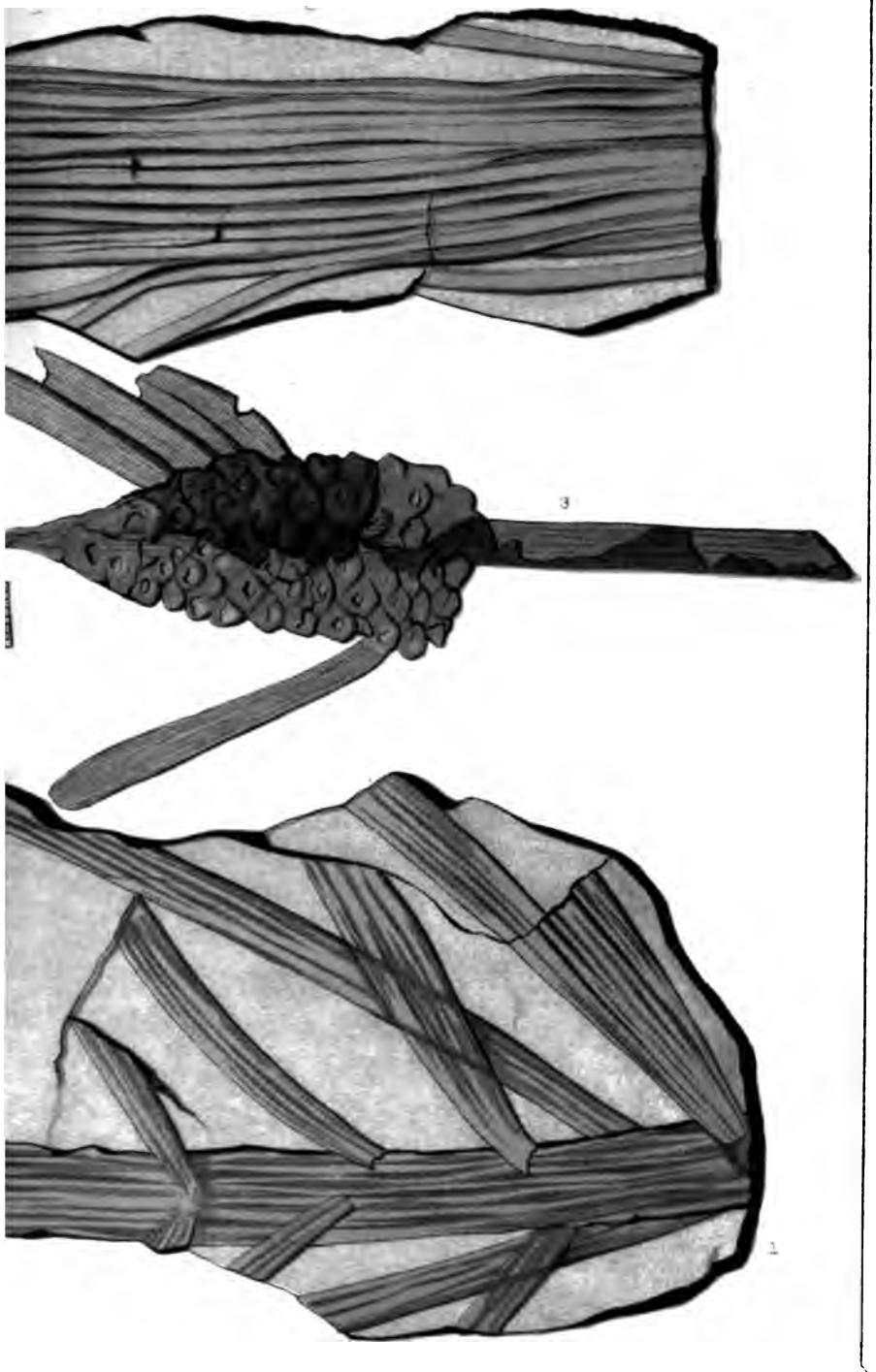

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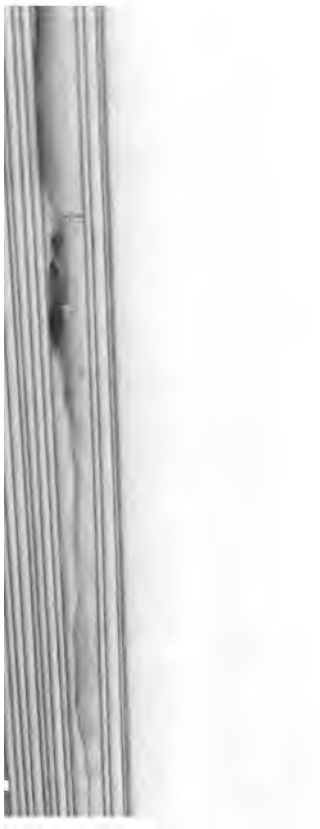

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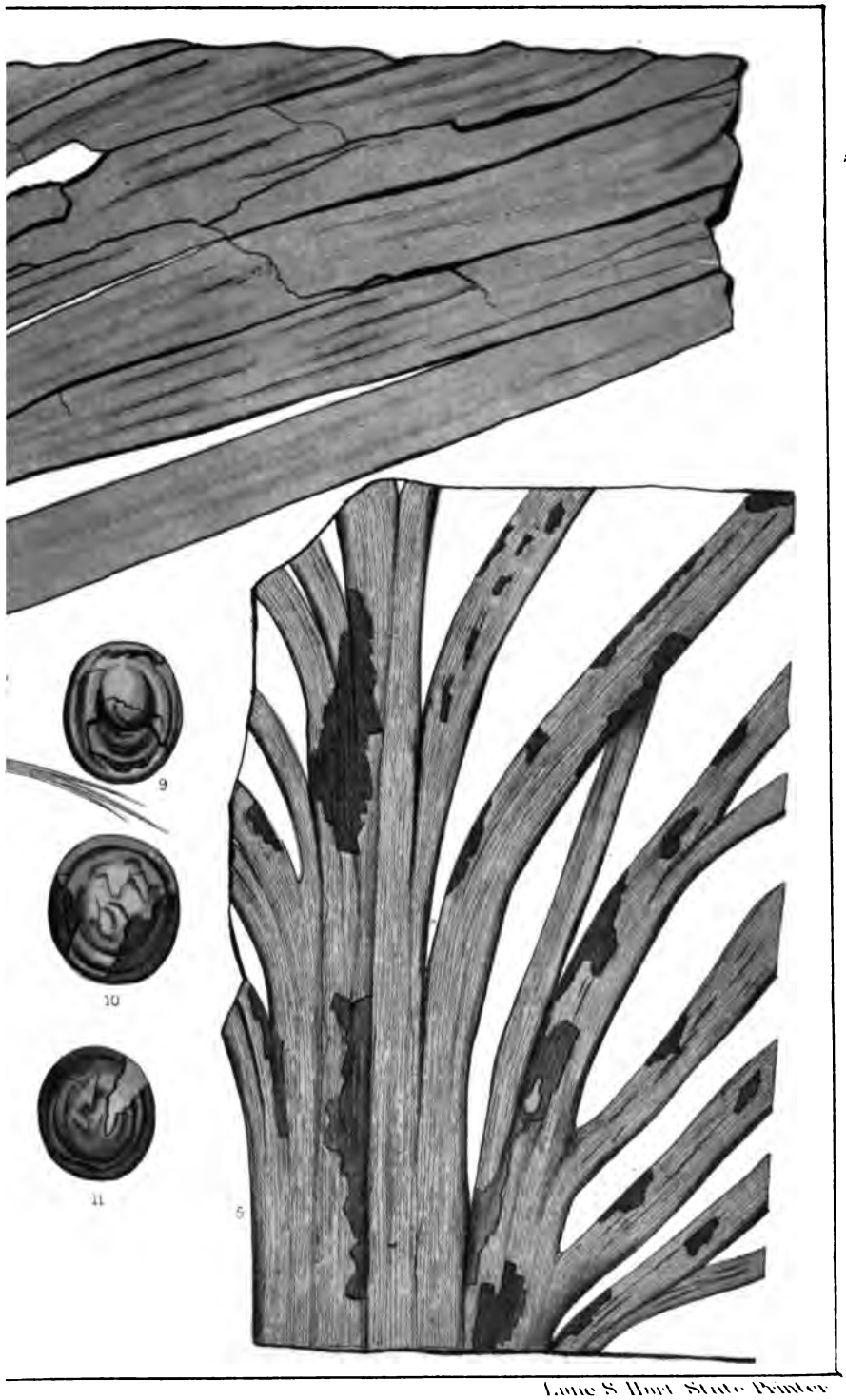

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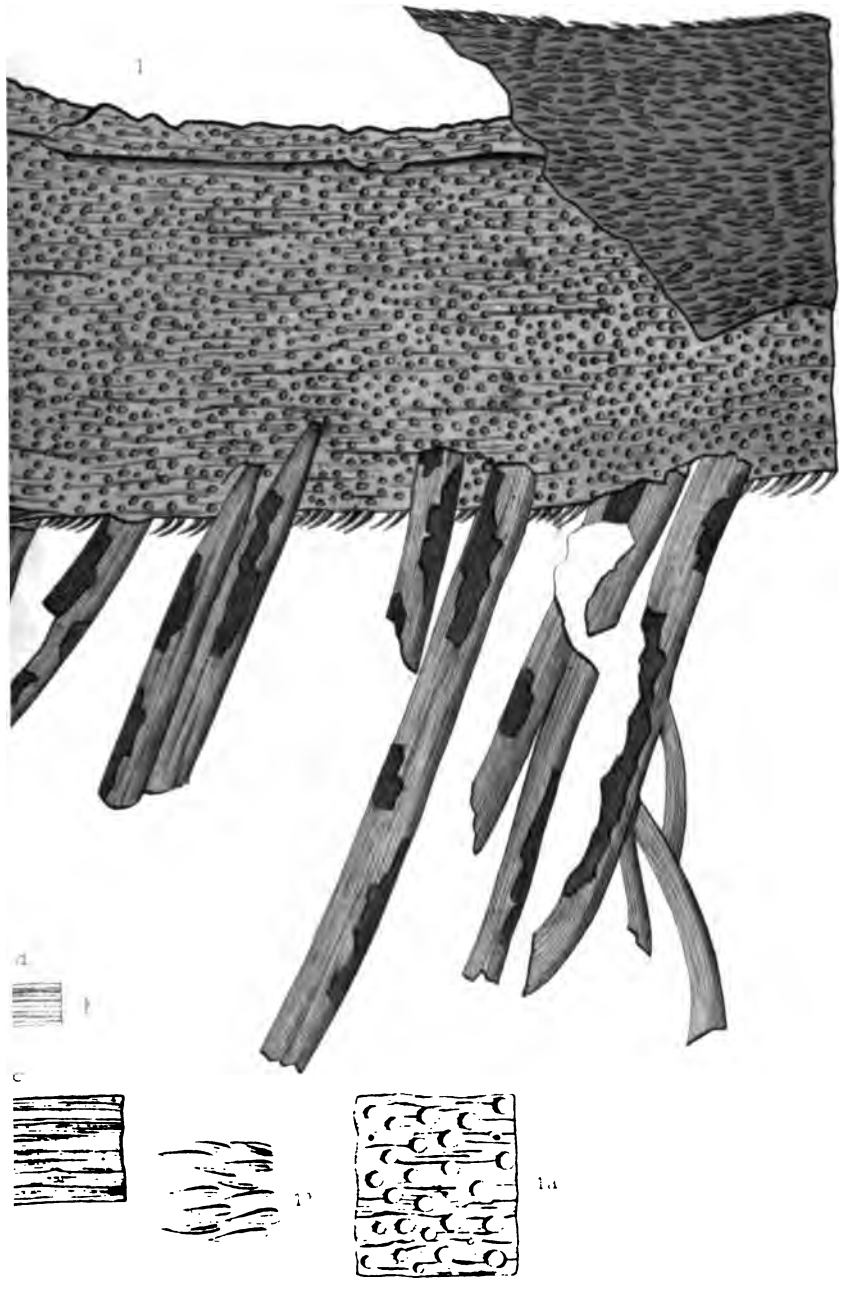

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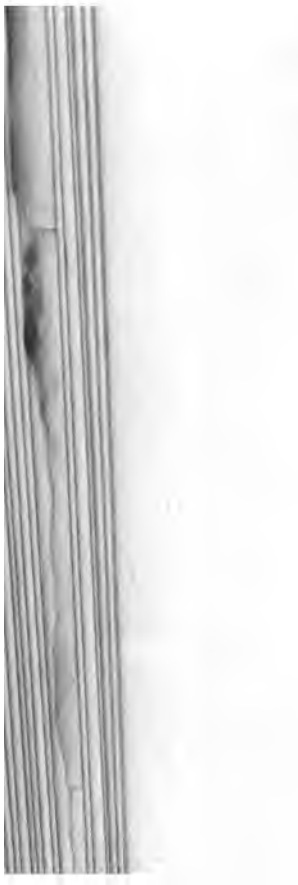

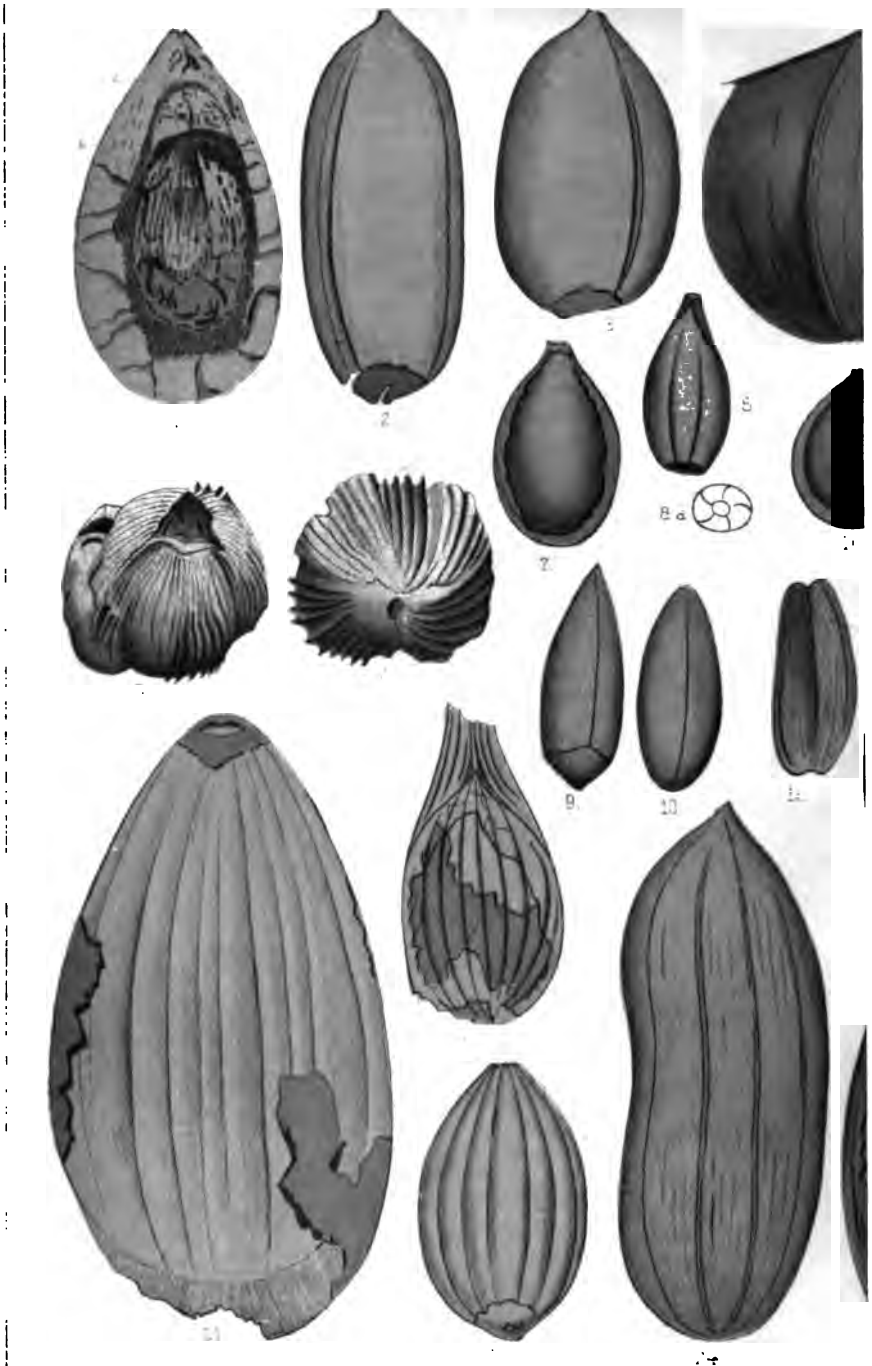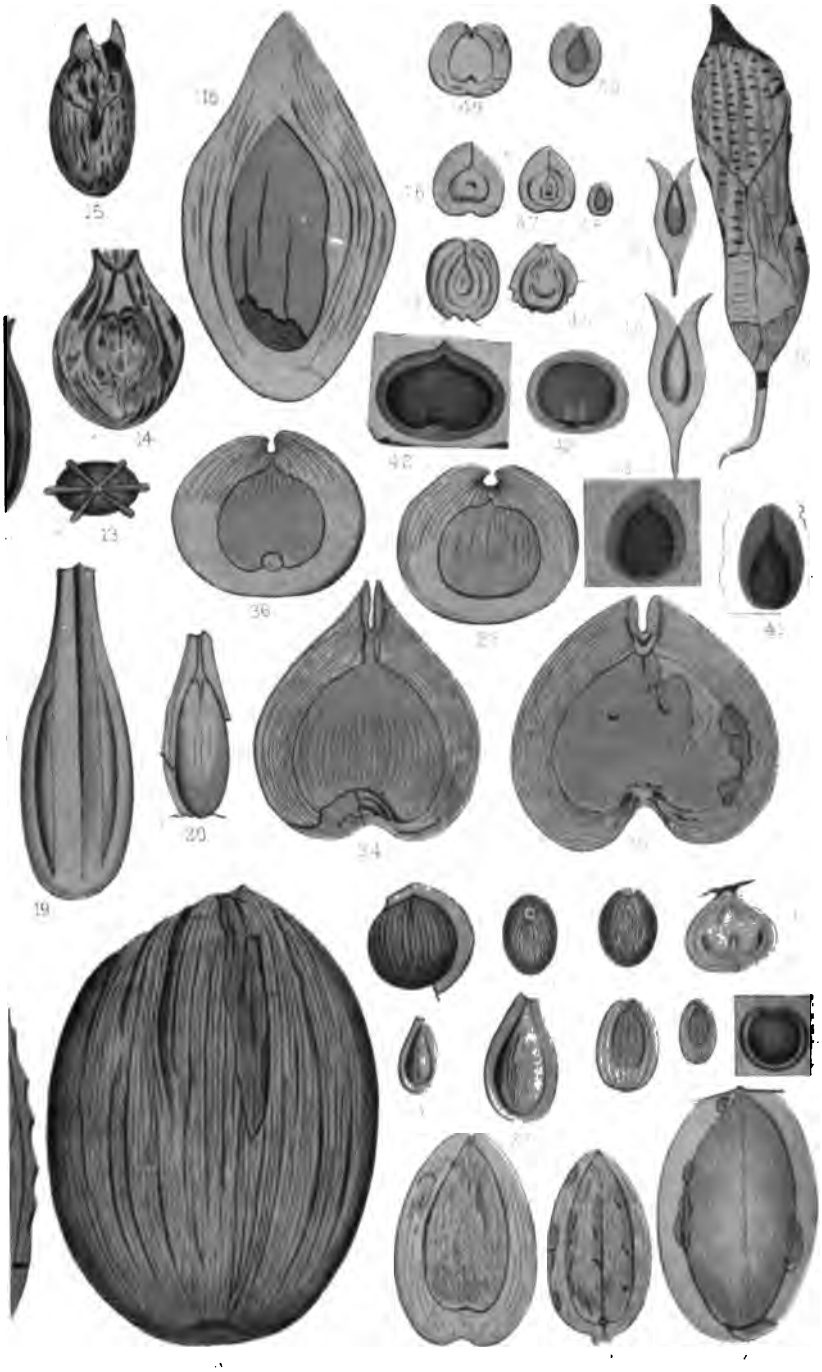
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